Sterigenics

November 19, 2014

Ms. Liz Bisbey-Kuehn
New Mexico Environmental Department
Air Quality Bureau
Permits Section- Minor Source Permits
525 Camino de los Marquez, Suite 1
Santa Fe, NM 87507

Re: Technical Revision to NSR Permit No. 0733-M15
Sterigenics U.S., LLC – Santa Teresa, NM Facility

Dear Ms. Kuehn:

Enclosed please find an application and supporting materials for a technical revision to the NSR permit issued to our Santa Teresa, New Mexico facility on June 13, 2013. Also enclosed is a $500 check for the application fee.

The requested technical revision is to cover the following four changes:

1. Installation of a new 30-pallet sterilization chamber (Chamber 14), including the associated process emissions from a new vacuum pump and chamber back vent. The vacuum pump is rated at 550 cfm and will exhaust process emissions from the new chamber directly to the facility's existing Ceilcote scrubber system. The Ceilcote system control efficiency for the new vacuum pump is $\geq$ 99.3%. The chamber backvent consists of residual Ethylene Oxide (EO) or Propylene Oxide (PO) process emissions generated at the conclusion of each sterilization cycle. The new Chamber 14 backvent will exhaust to the facility's existing Donaldson catalytic oxidizer system via an existing inlet duct. The control efficiency of Donaldson system is $\geq$ 99%.

2. Increasing the facility's annual, daily and hourly usage caps on EO and/or PO by 20% to accommodate the new Chamber 14. The 20% increase will revise the EO/PO usage caps to: 1,692,000 pounds /year; 5880 pounds /day; and 1,790 pounds/hour.

3. Rerouting the facility's remaining nine (9) backvent emissions which currently are uncontrolled, to the existing Donaldson catalytic oxidizer for emissions treatment. (Note: The backvents for Chambers 8, 9, 10 and 13 were re-routed to the Donaldson system in 2013. This request involves similarly rerouting backvents for Chambers 1, 2, 3, 4, 5, 6, 7, 11 and 12 to the Donaldson system.) This change will result in all chamber backvents receiving emissions treatment to a control efficiency $\geq$ 99%.

4. Updating equipment descriptions in the current permit (shown in Table 104) for several listed emission sources. These revisions pertain only to "like-for-like" equipment replacements made in recent years. The new equipment has the same capacity and/or level of emissions as the replaced equipment.

The above four changes will reduce the facility's emission of total HAPs (EO/PO) from 8.8 tons/year (the existing permitted level) to 6.1 tons/year. Also, the proposed changes do not involve or impact pollutants subject to National or New Mexico ambient air quality standards. For this reason, an air dispersion modeling study is not included within this application.

Please call me at 847/263-3499 or Kevin Wagner (630/928-1771) should you need additional information or have any questions.

Sincerely,

Jeffrey Smith
EHS Manager

Enclosures

Sterigenics International, Inc.
2015 Spring Road, Suite 650 • Oak Brook, IL 60523
Tel 630.928.1700 • Fax 630.928.1701 • www.sterigenics.com

Mail Application To:		**For Department use only:**
New Mexico Environment Department Air Quality Bureau Permits Section 525 Camino de los Marquez, Suite 1 Santa Fe, New Mexico, 87505 Phone: (505) 476-4300 Fax: (505) 476-4375 www.nmenv.state.nm.us/aqb		AIRS No.:

Universal Air Quality Permit Application

Use this application for NOI, NSR, or Title V sources.

Use this application for: the initial application, modifications, technical revisions, and renewals. For technical revisions, complete Sections, 1-A, 1-B, 2-E, 3, 9 and any other sections that are relevant to the requested action; coordination with the Air Quality Bureau permit staff prior to submittal is encouraged to clarify submittal requirements and to determine if more or less than these sections of the application are needed. Use this application for streamline permits as well. For NOI applications, submit the entire UA1, UA2, and UA3 applications on a single CD (no copies are needed). For NOIs, hard copies of UA1, Tables 2A, 2D & 2F, Section 3 and the signed Certification Page are required.

This application is being submitted as (check all that apply): ☐ Request for a No Permit Required Determination (no fee)
☐ **Updating** an application currently under NMED review. Include this page and all pages that are being updated (no fee required).
Construction Status: ☐ Not Constructed **X** Existing Permitted (or NOI) Facility ☐ Existing Non-permitted (or NOI) Facility
Minor Source: ☐ a NOI 20.2.73 NMAC **X** 20.2.72 NMAC application/revision ☐ 20.2.72.300 NMAC Streamline application
Title V Source: ☐ Title V (new) ☐ Title V renewal ☐ TV minor mod. ☐ TV significant mod. TV Acid Rain: ☐ New ☐ Renewal
PSD Major Source: ☐ PSD major source (new) ☐ minor modification to a PSD source ☐ a PSD major modification

Acknowledgements: **X** I acknowledge that a pre-application meeting is available to me upon request ☐ NPR (no fee)
X $500 NSR Permit Filing Fee enclosed OR ☐ The full permit fee associated with 10 fee points (required w/ streamline applications).
X Check No.: 307221 in the amount of **$500** (Fee not required for Title V) ☐ This facility meets the applicable requirements to register as a Small Business and a check for 50% of the normal fee is enclosed (only applicable **provided** that NMED has a Small Business Certification Form from your company on file found at: http://www.nmenv.state.nm.us/aqb/permit/app_form.html).

Citation: Please provide the **low level citation** under which this application is being submitted: **20.2.72.219.D NMAC**
(i.e. an example of an application for a new minor source would be 20.2.72.200.A NMAC, one example of a low level cite for a Technical Revision could be: 20.2.72.219.B.1.b NMAC, or a Title V acid rain cite would be: 20.2.70.200.C NMAC)

Synthetic Minor Source Information: A source is synthetic minor if its uncontrolled emissions are above major source applicability thresholds, but the facility is minor because it has federally enforceable requirements (federal requirements or permit conditions) that limit controlled emissions below major source thresholds. Facilities can be synthetic minor for either Title V (20.2.70 NMAC) or PSD (20.2.74 NMAC) or both. The Department tracks synthetic minor sources that are within 20% of either TV or PSD major source thresholds, referring to these as Synthetic Minor 80 Sources (abbreviated SM80). Please check all that apply:
Prior to this permitting action this source is a ☐ TV major source, ☐ a TV synthetic minor source, **X** a TV SM80 source.
Prior to this permitting action this source is a ☐ PSD major source, ☐ a PSD synthetic minor source, ☐ a PSD SM80 source.
This permitting action results in a **X** TV synthetic minor source and/or ☐ PSD synthetic minor source.

Section 1 – Facility Information

Section 1-A: Company Information

		AI # (if known):	Updating Permit/NOI #: **0733-M15**
1	Facility Name: **Sterigenics U.S., LLC – Santa Teresa Facility**	Plant primary SIC Code (4 digits): **7389**	
a	Facility Street Address (If no facility street address, provide directions from a prominent landmark): **2400 Airport Road, Santa Teresa, New Mexico 88008**		
2	Plant Operator Company Name: **Sterigenics U.S., LLC**	Phone/Fax: **630/928-1771 630/928-1701**	
a	Plant Operator Address: **2015 Spring Road – Suite 650, Oak Brook, IL 60523**		
b	Plant Operator's New Mexico Corporate ID or Tax ID: **03-067456-00-5**		
3	Plant Owner(s) name(s): **Sterigenics U.S., LLC**	Phone/Fax: **630/928-1771 630/928-1701**	
a	Plant Owner(s) Mailing Address(s): **2015 Spring Road – Suite 650, Oak Brook, IL 60523**		

4	Bill To (Company): **Sterigenics U.S., LLC**	Phone/Fax: **630/928-1771 630/928-1701**
a	Mailing Address: **2015 Spring Road – Ste. 650, Oak Brook, IL 60523**	E-mail: **KWagner@Sterigenics.com**
5	X Preparer: **Jeffrey Smith** ☐ Consultant:	Phone/Fax: **847/263-3499 630/928-1701**
a	Mailing Address: **2015 Spring Road – Ste. 650, Oak Brook, IL 60523**	E-mail: **JPSmith@Sterigenics.com**
6	Plant Operator Contact: **Steve Ortiz**	Phone/Fax: **575/589-9300 575/589-9729**
a	Address: **2400 Airport Road, Santa Teresa, New Mexico 88008**	E-mail: **SOrtiz@Sterigenics.com**
7	Air Permit Contact: **Jeffrey Smith**	Title: **EHS Manager**
a	E-mail: **JPSmith@Sterigenics.com**	Phone/Fax: **847/263-3499 630/928-1701**
b	Mailing Address: **2015 Spring Road – Ste. 650, Oak Brook, IL 60523**	

Section 1-B: Current Facility Status

1.a	Has this facility already been constructed? **X** Yes ☐ No	1.b If yes to question 1.a, is it currently operating in New Mexico? **X** Yes ☐ No
2	If yes to question 1.a, was the existing facility subject to a Notice of Intent (NOI) (20.2.73 NMAC) before submittal of this application? **X** Yes ☐ No	If yes to question 1.a, was the existing facility subject to a construction permit (20.2.72 NMAC) before submittal of this application? **X** Yes ☐ No
3	Is the facility currently shut down? ☐ Yes **X** No	If yes, give month and year of shut down (MM/YY):
4	Was this facility constructed before 8/31/1972 and continuously operated since 1972? ☐ Yes **X** No	
5	If Yes to question 3, has this facility been modified (see 20.2.72.7.P NMAC) or the capacity increased since 8/31/1972? ☐Yes ☐No **X** N/A	
6	Does this facility have a Title V operating permit (20.2.70 NMAC)? ☐ Yes **X** No	If yes, the permit No. is: P-
7	Has this facility been issued a No Permit Required (NPR)? **X** Yes ☐ No	If yes, the NPR No. is: **0733-M13**
8	Has this facility been issued a Notice of Intent (NOI)? **X** Yes ☐ No	If yes, the NOI No. is: **0733-M14**
9	Does this facility have a construction permit (20.2.72 NMAC)? **X** Yes ☐ No	If yes, the permit No. is: **P-733-M12-R**
10	Is this facility registered under a General permit (GCP-1, GCP-2, etc.)? ☐ Yes **X** No	If yes, the register No. is:

Section 1-C: Facility Input Capacity & Production Rate

1	What is the facility's maximum input capacity, specify units (reference here and list capacities in Section 20, if more room is required)			
a	Current	Hourly: **1,490 lbs/hr. EO or PO**	Daily: **4,900 lbs/ day EO or PO**	Annually: **1,410,000 lbs/yr EO or PO**
b	Proposed	Hourly: **1,790 lbs/hr. EO or PO**	Daily: **5,880 lbs/ day EO or PO**	Annually: **1,692,000 lbs/yr EO or PO**
2	What is the facility's maximum production rate, specify units (reference here and list capacities in Section 20, if more room is required)			
a	Current	Hourly: **not applicable (N/A.)**	Daily: **N/A**	Annually: **N/A**
b	Proposed	Hourly: **N/A**	Daily: **N/A**	Annually: **N/A**

Section 1-D: Facility Location Information

1	Section:	Range:	Township:	County:	Elevation (ft):
2	UTM Zone: ☐ 12 or ☐ 13			Datum: ☐ NAD 27 ☐ NAD 83 ☐ WGS 84	

a	UTM E (in meters, to nearest 10 meters):	UTM N (in meters, to nearest 10 meters):
b	**AND** Latitude (deg., min., sec.):	Longitude (deg., min., sec.):
3	Name and zip code of nearest New Mexico town:	
4	Detailed Driving Instructions from nearest NM town (attach a road map if necessary):	
5	The facility is (distance) miles (direction) of (nearest town).	
6	Status of land at facility (check one): ☐ Private ☐ Indian/Pueblo ☐ Federal BLM ☐ Federal Forest Service ☐ Other (specify)	
7	List all municipalities, Indian tribes, and counties within a ten (10) mile radius (20.2.72.203.B.2 NMAC) of the property on which the facility is proposed to be constructed or operated:	
8	**20.2.72** NMAC applications **only**: Will the property on which the facility is proposed to be constructed or operated be closer than 50 km (31 miles) to other states, Bernalillo County, or a Class I area (see www.nmenv.state.nm.us/aqb/modeling/class1areas.html)? ☐ Yes ☐ No (20.2.72.206.A.7 NMAC) If yes, list all with corresponding distances in kilometers:	
9	Name nearest Class I area:	
10	Shortest distance (in km) from facility boundary to the boundary of the nearest Class I area (to the nearest 10 meters):	
11	Distance (meters) from the perimeter of the Area of Operations (AO is defined as the plant site inclusive of all disturbed lands, including mining overburden removal areas) to nearest residence, school or occupied structure:	
12	Method(s) used to delineate the Restricted Area: "**Restricted Area**" is an area to which public entry is effectively precluded. Effective barriers include continuous fencing, continuous walls, or other continuous barriers approved by the Department, such as rugged physical terrain with steep grade that would require special equipment to traverse. If a large property is completely enclosed by fencing, a restricted area within the property may be indentified with signage only. Public roads cannot be part of a Restricted Area.	
13	Does the owner/operator intend to operate this source as a portable stationary source as defined in 20.2.72.7.X NMAC? ☐ Yes ☐ No A portable stationary source is not a mobile source, such as an automobile, but a source that can be installed permanently at one location or that can be re-installed at various locations, such as a hot mix asphalt plant that is moved to different job sites.	
14	Will this facility operate in conjunction with other air regulated parties on the same property? ☐ No ☐ Yes If yes, what is the name and permit number (if known) of the other facility?	

Section 1-E: Proposed Operating Schedule (The 1-E.1 & 1-E.2 operating schedules may become conditions in the permit.)

1	Facility **maximum** operating ($\frac{\text{hours}}{\text{day}}$):	($\frac{\text{days}}{\text{week}}$):	($\frac{\text{weeks}}{\text{year}}$):	($\frac{\text{hours}}{\text{year}}$):		
2	Facility's maximum daily operating schedule (if less than 24 $\frac{\text{hours}}{\text{day}}$)? Start:	☐AM ☐PM	End:	☐AM ☐PM		
3	Month and year of anticipated start of construction:					
4	Month and year of anticipated construction completion:					
5	Month and year of anticipated startup of new or modified facility:					
6	Will this facility operate at this site for more than one year? ☐ Yes ☐ No					

Section 1-F: Other Facility Information

1	Are there any current Notice of Violations (NOV), compliance orders, or any other compliance or enforcement issues related to this facility? ☐ Yes **X** No If yes, specify:		
a	If yes, NOV date or description of issue:		NOV Tracking No:
b	Is this application in response to any issue listed in 1-F, 1 or 1a above? ☐ Yes **X** No If Yes, provide the 1c & 1d info below:		
c	Document Title:	Date:	Requirement # (or page # and paragraph #):
d	Provide the required text to be inserted in this permit:		

2	Is air quality dispersion modeling being submitted with this application? ☐ Yes **X** No
3	Does this facility require an "Air Toxics" permit under 20.2.72.400 NMAC & 20.2.72.502, Tables A and/or B? ☐ Yes **X** No
4	Will this facility be a source of federal Hazardous Air Pollutants (HAP)? **X** Yes ☐ No
a	If Yes, what type of source? ☐ **Major** (☐ ≥10 tpy of any single HAP **OR** ☐ ≥25 tpy of any combination of HAPS) **OR** ☐ **Minor** (**X** <10 tpy of any single HAP **AND** ☐ <25 tpy of any combination of HAPS)
b	If 4.a is Yes, identify the subparts in 40 CFR 61 & 40 CFR 63 that apply to this facility (If no subparts apply, enter "N/A."): **40 CFR 63 Subpart O**

Section 1-G: Streamline Application

(This section applies to 20.2.72.300 NMAC Streamline applications only)

1	☐ I have filled out Section 18, "Addendum for Streamline Applications." ☐ N/A (This is not a Streamline application.)

Section 1-H: Title V Specific Information

(Fill this section out only if this is a Title V application.)

1	Responsible Official (20.2.70.300.D.2 NMAC):	Phone:
a	R.O. Title:	R.O. e-mail:
b	R. O. Address:	
2	Alternate Responsible Official (20.2.70.300.D.2 NMAC):	Phone:
a	A. R.O. Title:	A. R.O. e-mail:
b	A. R. O. Address:	
3	Company's Corporate or Partnership Relationship to any other Air Quality Permittee (List the names of any companies that have operating (20.2.70 NMAC) permits and with whom the applicant for this permit has a corporate or partnership relationship):	
4	Name of Parent Company ("Parent Company" means the primary name of the organization that owns the company to be permitted wholly or in part.):	
a	Address of Parent Company:	
5	Names of Subsidiary Companies ("Subsidiary Companies" means organizations, branches, divisions or subsidiaries, which are owned, wholly or in part, by the company to be permitted.):	
6	Telephone numbers & names of the owners' agents and site contacts familiar with plant operations:	
7	Affected Programs to include Other States, local air pollution control programs (i.e. Bernalillo) and Indian tribes: Will the property on which the facility is proposed to be constructed or operated be closer than 80 km (50 miles) from other states, local pollution control programs, and Indian tribes and pueblos (20.2.70.402.A.2 and 20.2.70.7.B)? If yes, state which ones and provide the distances in kilometers:	

Section 1-I – Submittal Requirements

Each 20.2.73 NMAC (**NOI**), a 20.2.70 NMAC (**Title V**), a 20.2.72 NMAC (**NSR** minor source), or 20.2.74 NMAC (**PSD**) application package shall consist of the following:

Hard Copy Submittal Requirements:

1) One hard copy **original signed and notarized application package printed double sided 'head-to-toe' 2-hole punched** as we bind the document on top, not on the side; except Section 2 (landscape tables), which should be head-to-head. If 'head-to-toe printing' is not possible, print single sided. Please use **numbered tab separators** in the hard copy submittal(s) as this facilitates the review process. For NOI submittals only, hard copies of UA1, Tables 2A, 2D & 2F, Section 3 and the signed Certification Page are required.

2) If the application is for a NSR or Title V permitting action, include one working hard **copy** for Department use. This copy does not need to be 2-hole punched. Technical revisions only need to fill out Section 1-A, 1-B, 3, and should fill out those portions of other Section(s) relevant to the technical revision. TV Minor Modifications need only fill out Section 1-A, 1-B, 1-H, 3, and those portions of other Section(s) relevant to the minor modification. NMED may require additional portions of the application to be submitted, as needed.

3) The entire NOI or Permit application package, including the full modeling study, should be submitted electronically on compact disk(s) (CD). For permit application submittals, **two** CD copies are required (in sleeves, not crystal cases, please), with additional CD copies as specified below. NOI applications require only a single CD submittal.

4) If **air dispersion modeling** is required by the application type, include the **NMED Modeling Waiver OR** one additional electronic copy of the air dispersion modeling including the input and output files. The dispersion modeling ***summary report only*** should be submitted as hard copy(ies) unless otherwise indicated by the Bureau. The complete dispersion modeling study, including all input/output files, should be submitted electronically as part of the electronic submittal.

5) If subject to PSD review under 20.2.74 NMAC (PSD) include,
   a. one additional hard copy and one additional CD copy for US EPA,
   b. one additional hard copy and one additional CD copy for each federal land manager affected (NPS, USFS, FWS, USDI) and,
   c. one additional hard copy and one additional CD copy for each affected regulatory agency other than the Air Quality Bureau.

Electronic Submittal Requirements [in addition to the required hard copy(ies)]:

1) All required electronic documents shall be submitted in duplicate (2 separate CDs). A single PDF document of the entire application as submitted and the individual documents comprising the application.

2) The documents should also be submitted in Microsoft Office compatible file format (Word, Excel, etc.) allowing us to access the text in the documents (copy & paste). Any documents that cannot be submitted in a Microsoft Office compatible format shall be saved as a PDF file from within the electronic document that created the file. If you are unable to provide Microsoft office compatible electronic files or internally generated PDF files of files (items that were not created electronically: i.e. brochures, maps, graphics, etc,), submit these items in hard copy format with the number of additional hard copies corresponding to the number of CD copies required. We must be able to review the formulas and inputs that calculated the emissions.

3) It is preferred that this application form be submitted as 3 electronic files (2 MSWord docs: Universal Application section 1 and Universal Application section 3-19) and 1 Excel file of the tables (Universal Application section 2) on the CD(s). Please include as many of the 3-19 Sections as practical in a single MS Word electronic document. Create separate electronic file(s) if a single file becomes too large or if portions must be saved in a file format other than MS Word.

4) The electronic file names shall be a maximum of 25 characters long (including spaces, if any). The format of the electronic Universal Application shall be in the format: "A-3423-FacilityName". The "A" distinguishes the file as an application submittal, as opposed to other documents the Department itself puts into the database. Thus, all electronic application submittals should begin with "A-". Modifications to existing facilities should use the core permit number (i.e. '3423') the Department assigned to the facility as the next 4 digits. Use 'XXXX' for new facility applications. The format of any separate electronic submittals (additional submittals such as non-Word attachments, re-submittals, application updates) and Section document shall be in the format: "A-3423-9-description", where "9" stands for the section # (in this case Section 9-Public Notice). Please refrain, as much as possible, from submitting any scanned documents as this file format is extremely large, which uses up too much storage capacity in our database. Please take the time to fill out the header information throughout all submittals as this will identify any loose pages, including the Application Date (date submitted) & Revision # (0 for original, 1, 2, etc.; which will help keep track of subsequent partial update(s) to the original submittal. The footer information should not be modified by the applicant.

Table of Contents

Section 3

Application Summary

The **Application Summary** shall include a brief description of the facility and its process, the type of permit application, the applicable regulation (i.e. 20.2.72.200.A.X, or 20.2.73 NMAC) under which the application is being submitted, and any air quality permit numbers associated with this site. If this facility is to be collocated with another facility, provide details of the other facility including permit number(s). In case of a revision or modification to a facility, provide the lowest level regulatory citation (i.e. 20.2.72.219.B.1.d NMAC) under which the revision or modification is being requested. Also describe the proposed changes from the original permit, how the proposed modification will effect the facility's operations and emissions, de-bottlenecking impacts, and changes to the facility's major/minor status (both PSD & Title V).

Routine or predictable emissions during Startup, Shutdown, and Maintenance (SSM): Provide an overview of how SSM emissions are accounted for in this application. Refer to "Guidance for Submittal of Startup, Shutdown, Maintenance Emissions in Permit Applications (http://www.nmenv.state.nm.us/aqb/permit/app_form.html) for more detailed instructions on SSM emissions.

Facility NSR Permit: 0733-M15

The requested technical revision (20.2.72.219.D) is to cover the following four changes:

1. Installation of a new 30-pallet sterilization chamber (Chamber 14), including associated process emissions from a new vacuum pump and chamber back vent. The vacuum pump is rated at 550 cfm and will exhaust process emissions from the new chamber directly to the facility's existing Ceilcote scrubber system. The Ceilcote system control efficiency for the new vacuum pump will be $\geq$ 99.3%. The chamber backvent consists of residual Ethylene Oxide (EO) or Propylene Oxide (PO) process emissions produced at the conclusion of each chamber sterilization cycle. The new Chamber 14 backvent will exhaust to the facility's existing Donaldson catalytic oxidizer system via an existing inlet duct. The Donaldson system control efficiency for the Chamber 14 backvent will be $\geq$ 99%.

2. Increasing the facility's cap on the usage of EO or PO by 20% to accommodate the new chamber mentioned above. The 20% increase will revise the EO/PO usage caps to: 1,692,000 pounds /year; 5880 pounds /day; and 1,790 pounds/hour.

3. Rerouting the facility's remaining nine (9) backvent emissions which currently are uncontrolled, to the existing Donaldson catalytic oxidizer for emissions treatment. (Note: The backvents for Chambers 8, 9, 10 and 13 were re-routed to the Donaldson system in 2013. This request entails rerouting backvents for Chambers 1, 2, 3, 4, 5, 6, 7, 11 and 12.) This change will result in all chamber backvents receiving emissions treatment to a minimum control efficiency of 99%.

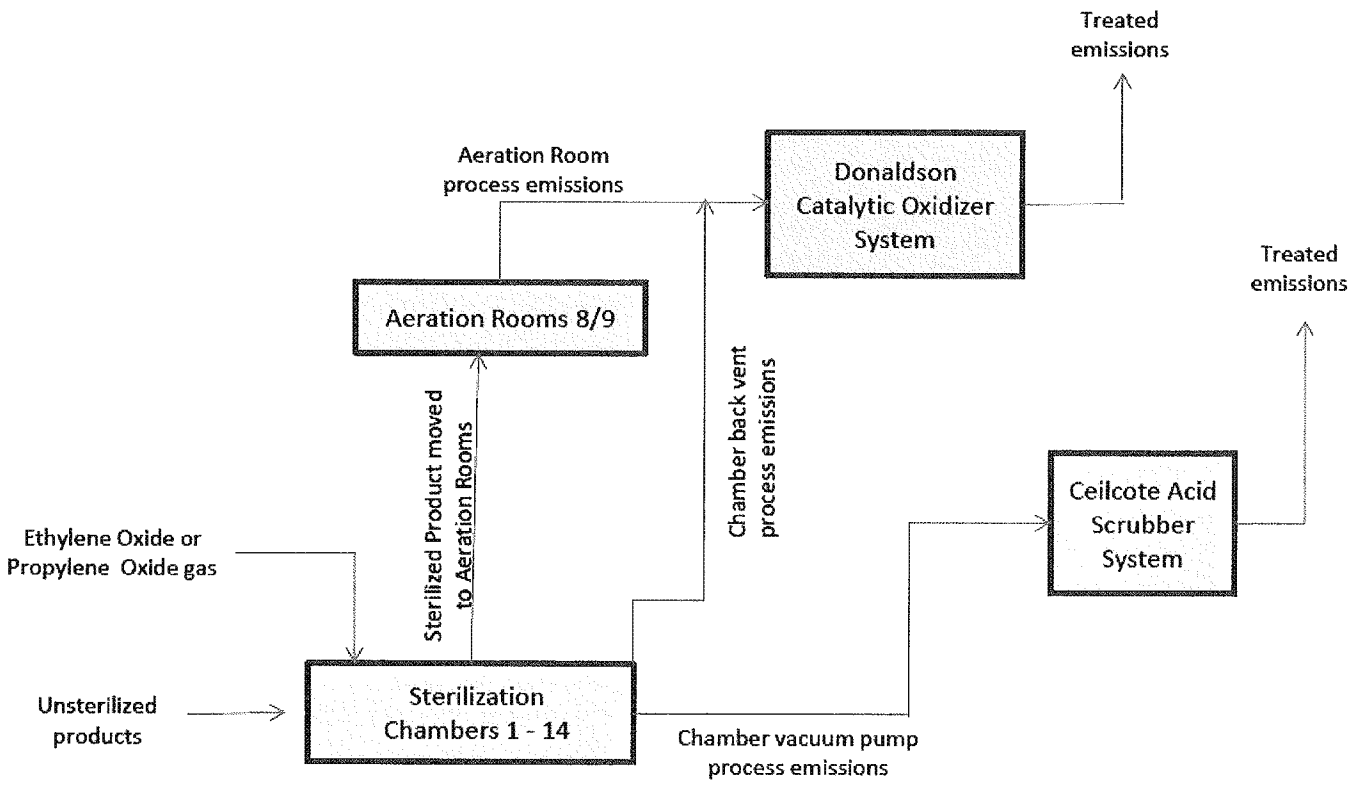
4. Updating equipment descriptions in the current permit (shown in Table 104) for several listed emission sources. These revisions pertain only to "like-for-like" equipment replacements made in recent years. The new equipment has the same capacity and/or level of emissions as the replaced equipment.

Section 4

Process Flow Sheet

A **process flow sheet** and/or block diagram indicating the individual equipment, all emission points and types of control applied to those points. The unit numbering system should be consistent throughout this application.

Simple Facility Process Diagram
Santa Teresa Facility



Section 23: Certification

Company Name: **STERIGENICS U.S., LLC**

I, KATHLEEN HOFFMAN, hereby certify that the information and data submitted in this application are true and as accurate as possible, to the best of my knowledge and professional expertise and experience.

Signed this 20th day of November, 2014 upon my oath or affirmation, before a notary of the State of

Illinois.

KAthoffman
*Signature

20-Nov-2014
Date

KATHLEEN HOFFMAN
Printed Name

Sr. Vice President Global EHS
Title

Scribed and sworn before me on this 20 day of November, 2014.

My authorization as a notary of the State of Illinois expires on the

23 day of July, 2017.

Claudine Evans
Notary's Signature

20 Nov 2014
Date

Claudine Evans
Notary's Printed Name

OFFICIAL SEAL
CLAUDINE EVANS
NOTARY PUBLIC - STATE OF ILLINOIS
MY COMMISSION EXPIRES:07/23/17

*For Title V applications, the signature must be of the Responsible Official as defined in 20.2.70.7.AE NMAC.

Table 2-A: Regulated Emission Sources

Unit and stack numbering must correspond throughout the application package. If applying for a NOI under 20.2.73 NMAC, equipment exemptions under 2.72.202 NMAC do not apply.

Unit Number[1]	Source Description	Manufacturer	Model #	Serial #	Maximum or Rated Capacity[3] (Specify Units)	Requested Permitted Capacity[3] (Specify Units)	Date of Manufacture or Reconstruction[2] / Date of Installation /Construction[2]	Controlled by Unit # / Emissions vented to Stack #	Source Classification Code (SCC)	For Each Piece of Equipment, Check One	Applicable State & Federal Regulation(s) (i.e. 20.2.X, JJJJ, ...)	Replacing Unit No.
S-1	Sterilizer #1 Vacuum Pump	Dekker	DV02516 DA2	050926G03	250 cfm	250 cfm				X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	40CFR63.362(a)	
S-2	Sterilizer #2 Vacuum Pump	Dekker	DV02516 DA2	050725G07	250 cfm	250 cfm				X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	40CFR63.362(a)	
S-3	Sterilizer #3 Vacuum Pump	Dekker	DV0251B-DA3	060920G01	250 cfm	250 cfm				☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional X Replacement Unit ☐ To Be Modified ☐ To be Replaced	40CFR63.362(a)	
S-4	Sterilizer #4 Vacuum Pump	Dekker	DV025OB-DA2	12005	250 cfm	250 cfm				☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional X Replacement Unit ☐ To Be Modified ☐ To be Replaced	40CFR63.362(a)	
S-5	Sterilizer #5 Vacuum Pump	Dekker	DV0251B-DA2	060610G03	250 cfm	250 cfm				☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional X Replacement Unit ☐ To Be Modified ☐ To be Replaced	40CFR63.362(a)	
S-6	Sterilizer #6 Vacuum Pump	Dekker	DV0251B-DA3	070129G03	250 cfm	250 cfm				☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional X Replacement Unit ☐ To Be Modified ☐ To be Replaced	40CFR63.362(a)	
S-7	Sterilizer #7 Vacuum Pump	Dekker	DV0550B-KA2	070323G11	250 cfm	250 cfm				☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional X Replacement Unit ☐ To Be Modified ☐ To be Replaced	40CFR63.362(a)	
S-8	Sterilizer #8 Vacuum Pump(s) for 30 Pallet Chamber	Dekker	PUMP A&B DV0550B-KA3	C02373602/ C02373601	2@550 cfm	2@550 cfm				☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional X Replacement Unit ☐ To Be Modified ☐ To be Replaced	40CFR63.362(a)	
S-9	Sterilizer #9 Vacuum Pump for 30 Pallet Chamber	Dekker	DV0550B-KA3/DV0550B-KA2	060427G05/ C02373609	2@550 cfm	2@550 cfm				☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional X Replacement Unit ☐ To Be Modified ☐ To be Replaced	40CFR63.362(a)	
S-10	Sterilizer #10 Vacuum Pump(s) for 30 Pallet	Dekker	DV0550B-KA2	071031G06	550 cfm	550 cfm				☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional X Replacement Unit ☐ To Be Modified ☐ To be Replaced	40CFR63.362(a)	
S-11	Sterilizer # 11 Vacuum Pump(s) for 15 Pallet Chamber	Dekker	DV0550B-KA2	050628G02	550 cfm	550 cfm				☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional X Replacement Unit ☐ To Be Modified ☐ To be Replaced	40CFR63.362(a)	
S-12	Sterilizer #12 Vaccum Pump(s) for 26 Pallet Chamber	Sterling SIHI	LEHA 900 AB	BFK4SP	550 cfm	550 cfm				X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	40CFR63.362(a)	
S-13	Sterilizer #13 Vacuum Pump(s) for 30 Pallet Chamber	Dekker	DV0-550B-KA2	061031G10	550 cfm	550 cfm				X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	40CFR63.362(a)	
S-14	Sterilizer #14 Vacuum Pump for new 30 Pallet Chamber	Dekker	T.B.D.	T.B.D.	550 cfm	550 cfm				☐ Existing (unchanged) ☐ To be Removed X New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	40CFR63.362(a)	
AR 8	Aeration Room #8									X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	40CFR63.362(a)	

[1] Unit numbers must correspond to unit numbers in the previous permit unless a complete cross reference table of all units in both permits is provided.
[2] Specify dates required to determine regulatory applicability.
[3] To properly account for power conversion efficiencies, generator set rated capacity shall be reported as the rated capacity of the engine in horsepower, not the kilowatt capacity of the generator set.

Table 2-A: Regulated Emission Sources

Unit and stack numbering must correspond throughout the application package. If applying for a NOI under 20.2.73 NMAC, equipment exemptions under 2.72.202 NMAC do not apply.

Unit Number[1]	Source Description	Manufacturer	Model #	Serial #	Maximum or Rated Capacity[3] (Specify Units)	Requested Permitted Capacity[3] (Specify Units)	Date of Manufacture or Reconstruction[2] / Date of Installation /Construction[2]	Controlled by Unit # / Emissions vented to Stack #	Source Classification Code (SCC)	For Each Piece of Equipment, Check One	Applicable State & Federal Regulation(s) (i.e. 20.2.X, JJJJ, ...)	Replacing Unit No.
AR-9	Aeration Room #9									X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	40CFR63.362(a)	
BV 1	Back Vent Exhaust for Sterilizer 1	Captive Air	BI18CARM	455172	3000 cfm	3000 cfm				☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit X To Be Modified ☐ To be Replaced		
BV 2	Back Vent Exhaust for Sterilizer 2	Captive Air	BI18SCARM	404418	3000 cfm	3000 cfm				☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit X To Be Modified ☐ To be Replaced		
BV 3	Back Vent Exhaust for Sterilizer 3	Dayton	UK	D2C799A	1800 cfm	1800 cfm				☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit X To Be Modified ☐ To be Replaced		
BV 4	Back Vent Exhaust for Sterilizer 4	Dayton	UK	2C799A	1800 cfm	1800 cfm				☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit X To Be Modified ☐ To be Replaced		
BV 5	Back Vent Exhaust for Sterilizer 5	Dayton	UK	13C074A	1800 cfm	1800 cfm				☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit X To Be Modified ☐ To be Replaced		
BV 6	Back Vent Exhaust for Sterilizer 6	Dayton	UK	D3C074A	1800 cfm	1800 cfm				☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit X To Be Modified ☐ To be Replaced		
BV 7	Back Vent Exhaust for Sterilizer 7	Dayton	UK	10C074A	1800 cfm	1800 cfm				☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit X To Be Modified ☐ To be Replaced		
BV 8	Back Vent Exhaust for Sterilizer 8	Greenheck	12-BISW-41-10-11	11865778 -0909	1800 cfm	1800 cfm				X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
BV 9	Back Vent Exhaust for Sterilizer 9	Greenheck	12-BISW-41-10-11	12327114 -1102	1800 cfm	1800 cfm				X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
BV 10	Back Vent Exhaust for Sterilizer 10	Greenheck	12-BISW-41-10-11	11872437 -0909	1800 cfm	1800 cfm				X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
BV 11	Back Vent Exhaust for Sterilizer 11	Greenheck	12-BISW-41-10-11	05L11546	1800 cfm	1800 cfm				☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit X To Be Modified ☐ To be Replaced		
BV 12	Back Vent Exhaust for Sterilizer 12	Greenheck	12-BISW-41-10-11	5647269-12982637	2000 cfm	2000 cfm				☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit X To Be Modified ☐ To be Replaced		
BV 13	Back Vent Exhaust for Sterilizer 13	Greenheck	12-BISW-41-10-11	07B02982	1800 cfm	1800 cfm				X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
BV 14	Back Vent Exhaust for Sterilizer 14	T.B.D	T.B.D.	T.B.D.	T.B.D.	T.B.D.				☐ Existing (unchanged) ☐ To be Removed X New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		

[1] Unit numbers must correspond to unit numbers in the previous permit unless a complete cross reference table of all units in both permits is provided.
[2] Specify dates required to determine regulatory applicability.
[3] To properly account for power conversion efficiencies, generator set rated capacity shall be reported as the rated capacity of the engine in horsepower, not the kilowatt capacity of the generator set.

Table 2-A: Regulated Emission Sources

Unit and stack numbering must correspond throughout the application package. If applying for a NOI under 20.2.73 NMAC, equipment exemptions under 2.72.202 NMAC do not apply.

Unit Number[1]	Source Description	Manufacturer	Model #	Serial #	Maximum or Rated Capacity[3] (Specify Units)	Requested Permitted Capacity[3] (Specify Units)	Date of Manufacture or Reconstruction[2] / Date of Installation /Construction[2]	Controlled by Unit # / Emissions vented to Stack #	Source Classi-fication Code (SCC)	For Each Piece of Equipment, Check One	Applicable State & Federal Regulation(s) (i.e. 20.2.X, JJJJ, ...)	Replacing Unit No.
CD 1	Acid-Water Scrubber	Deoxx	#88-485	None	600 cfm	600 cfm				X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	40CFR 63.362(a)	
CD 2	Acid-Water Scrubber	Ceilcote	SPT-54-240	81318	2500 cfm	2500 cfm				X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	40 CFR 63.362(a)	
CD 3	Catalytic Oxidizer	Donaldson	20,000 AG Eto Abator	None	20,000 cfm	20,000 cfm				X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	40 CFR 63.362(a)	
Bx	Any combination of natural gas boilers with maximum combined input rating ≤ 18 MM Btu/hr.	Cleaver Brooks	FLX 700		18 MM BTU/hr.	18 MM BTU/hr.				X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
										☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
										☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
										☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
										☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
										☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
										☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
										☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
										☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
										☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
										☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
										☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		

[1] Unit numbers must correspond to unit numbers in the previous permit unless a complete cross reference table of all units in both permits is provided.
[2] Specify dates required to determine regulatory applicability.

Table 2-C: Emissions Control Equipment

Unit and stack numbering must correspond throughout the application package. Only list control equipment for TAPs if the TAP's maximum uncontrolled emissions rate is over its respective threshold as listed in 20.2.72 NMAC, Subpart V, Tables A and B. In accordance with 20.2.72.203.A(3) and (8) NMAC, 20.2.70.300.D(5)(b) and (e) NMAC, and 20.2.73.200.B(7) NMAC, the permittee shall report all control devices and list each pollutant controlled by the control device regardless if the applicant takes credit for the reduction in emissions.

Control Equipment Unit No.	Control Equipment Description	Date Installed	Controlled Pollutant(s)	Controlling Emissions for Unit Number(s)[1]	Efficiency (% Control by Weight)	Method used to Estimate Efficiency
CD-1	Deoxx acid-water scrubber system	1989	Ethylene oxide/ Propylene oxide	Operates as backup to CD-2	> 99%	Performance test
CD-2	Ceilcote acid-water scrubber system	2004	Ethylene oxide/ Propylene oxide	SV1 thru SV14	> 99.3%	Performance test
CD-3	Donaldson 20,000 AG EtO Abator	1991	Ethylene oxide/ Propylene oxide	AR 8, AR 9 and BV1thru BV14	> 99%	Performance test

[1] List each control device on a separate line. For each control device, list all emission units controlled by the control device.

Table 2-D: Maximum Emissions (under normal operating conditions)

X This Table was intentionally left blank because it would be identical to Table 2-E.

Maximum Emissions are the emissions at maximum capacity and prior to (in the absence of) pollution control, emission-reducing process equipment, or any other emission reduction. Calculate the hourly emissions using the worst case hourly emissions for each pollutant. For each pollutant, calculate the annual emissions as if the facility were operating at maximum plant capacity without pollution controls for 8760 hours per year, unless otherwise approved by the Department. List Hazardous Air Pollutants (HAP) & Toxic Air Pollutants (TAPs) in Table 2-I. Unit & stack numbering must be consistent throughout the application package. For each unit with flashing, list tank-flashing emissions estimates as a separate line item (20.2.70.300.D.5 NMAC, 20.2.72.203.A.3 NMAC, 20.2.73.200.B.6, & 20.2.74.301 NMAC). Fill all cells in this tablewith the emission numbers or a "-" symbol. A "-" symbol indicates that emissions of this pollutant are not expected. Numbers shall be expressed with a minimum of two significant figures[1]. If there are any significant figures to the left of a decimal point, there shall be no more than one significant figure to the right of the decimal point.

Unit No.	NOx		CO		VOC		SOx		TSP[2]		PM10[2]		PM2.5[2]		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
Totals	0	0	0	0	0	0	0	0			0	0						

[1] **Significant Figures Examples:** One significant figure – 0.03, 3, 0.3. Two significant figures – 0.34, 34, 3400, 3.4

[2] **Condensables:** Include condensable particulate matter emissions in particulate matter calculations.

Table 2-E: Requested Allowable Emissions

Unit & stack numbering must be consistent throughout the application package. For each unit with flashing, list tank-flashing emissions estimates as a separate line item (20.2.70.300.D.5 NMAC, 20.2.72.203.A.3 NMAC, 20.2.73.200.B.6, & 20.2.74.301 NMAC). Fill all cells in this table with the emission numbers or a "-" symbol. A "-" symbol indicates that emissions of this pollutant are not expected. Numbers shall be expressed with a minimum of two significant figures[1]. If there are any significant figures to the left of a decimal point, there shall be no more than one significant figure to the right of the decimal point. Please do not change the column widths on this table.

Unit No.	NOx		CO		VOC		SOx		TSP[2]		PM10[2]		PM2.5[2]		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
SV1 thru SV14					incl. in CD-2													
AR8 & AR9					incl in CD-3													
BV1 thru BV14					incl. in CD-3													
CD-1	A	A	A	A	operates as back-up to CD-2		A	A	A	A	A	A	A	A	A	A	A	A
CD-2	A	A	A	A	11.9	5.6	A	A	A	A	A	A	A	A	A	A	A	A
CD-3	0.4	1.7	0.3	1.4	0.9	0.6	0	0.01	A	A	0.03	0	A	A	A	A	A	A
Bx	1.8	7.9	1.5	6.6	0.1	0.4	0.01	0.05	A	A	0.1	0.6	A	A	A	A	A	A
Totals	2.2	9.6	1.8	8	12.9	6.6	0.01	0.06			0.13	0.6						

[1] **Significant Figures Examples**: One significant figure – 0.03, 3, 0.3. Two significant figures – 0.34, 34, 3400, 3.4

[2] **Condensables:** Include condensable particulate matter emissions in particulate matter calculations.

Table 2-I: Stack Exit and Fugitive Emission Rates for HAPs and TAPs

In the table below, report the Potential to Emit for each HAP from each regulated emission unit listed in Table 2-A, only if the entire facility emits the HAP at a rate greater than or equal to one (1) ton per year For each such emission unit, HAPs shall be reported to the nearest 0.1 tpy. Each facility-wide Individual HAP total and the facility-wide Total HAPs shall be the sum of all HAP sources calculated to the nearest 0.1 ton per year. Per 20.2.72.403.A.1 NMAC, facilities not exempt [see 20.2.72.402.C NMAC] from TAP permitting shall report each TAP that has an uncontrolled emission rate in excess of its pounds per hour screening level specified in 20.2.72.502 NMAC. TAPs shall be reported using one more significant figure than the number of significant figures shown in the pound per hour threshold corresponding to the substance. Use the HAP nomenclature as it appears in Section 112 (b) of the 1990 CAAA and the TAP nomenclature as it listed in 20.2.72.502 NMAC. Include tank-flashing emissions estimates of HAPs in this table. For each HAP or TAP listed, fill all cells in this table with the emission numbers or a "-" symbol. A "-" symbol indicates that emissions of this pollutant are not expected or the pollutant is emitted in a quantity less than the threshold amounts described above.

Stack No.	Unit No.(s)	Total HAPs		Ethylene Oxide* ☒ HAP or ☐ TAP		Propylene Oxide* ☒ HAP or ☐ TAP		Provide Pollutant Name Here ☐ HAP or ☐ TAP		Provide Pollutant Name Here ☐ HAP or ☐ TAP		Provide Pollutant Name Here ☐ HAP or ☐ TAP		Provide Pollutant Name Here ☐ HAP or ☐ TAP		Provide Pollutant Name Here ☐ HAP or ☐ TAP		Provide Pollutant Name Here ☐ HAP or ☐ TAP	
		lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
	SV1 thru SV14	incl. in CD-2		incl. in CD-2		incl. in CD-2													
	AR8 & AR9	incl in CD-3		incl in CD-3		incl in CD-3													
	BV1 thru BV14	incl. in CD-3		incl. in CD-3		incl. in CD-3													
	CD-1	operates as back-up to CD-2		operates as back-up to CD-2		operates as back-up to CD-2													
	CD-2	11.9	5.7	11.9	5.7	*	*												
	CD-3	0.9	0.4	0.9	0.4	*	*												
	Bx	A	A	A	A	A	A												
* Note: Combined usage of Ethylene Oxide and Propylene Oxide will not exceed 846 tons/year. Distribution of EO and PO emissions will not total above the emissions listed for Ethylene Oxide.																			
Totals:		12.8	6.1	12.8	6.1	*	*												

Sterigenics Santa Teresa Facility

Usage	Current Operating Limits	Proposed Operating Limits
EO/PO Lbs/Yr	1,410,000	1,692,000
EO/PO Lbs/Day	4,900	5,880
EO/PO Lbs/Hr	1,490	1,790

	Scrubber Efficiency	Abator Efficiency
Regulatory/Permit	99.00%	99.00%
Last test	99.95%	99.66%
For Calculation	99.30%	99.00%

Allocation of Facility Emission Sources

	Allocation
Vacuum	95.0%
Aeration	4.0%
Backvent	1.0%

Emissions Summary

VOC Emissions	Permit Emission Limits[1] Lbs/Hr	Permit Emission Limits[1] Tons/Yr
Vacuum Pump VOC (EO)	11.91	5.63
Backvent VOC (EO)	0.18	0.08
Aeration VOC (EO)	0.72	0.34
Facility total EO	**12.80**	**6.05**

Abator VOC Emissions

	Lbs/Hr	Tons/Yr
Donaldson burner 3.765 MMBTU/hr.	0.02	0.09
Backvent VOC (EO)	0.18	0.08
Aeration VOC (EO)	0.72	0.34
	0.92	**0.51**

Ethylene Oxide Emissions

Chamber Emissions[1]

Source Code	Chamber	Capacity (pallets)	Projected Maximums[1] EO Charge Rate Lbs/Hr	EO Charge Rate Tons/Yr	Vacuum EO Emissions Lbs/Hr	Vacuum EO Emissions Tons/Yr	Backvent EO Emissions Lbs/Hr	Backvent EO Emissions Tons/Yr	Aeration EO Emissions Lbs/Hr	Aeration EO Emissions Tons/Yr
R1	1	13	82.53	39.00	0.55	0.26	0.01	0.00	0.03	0.02
R2	2	13	82.53	39.00	0.55	0.26	0.01	0.00	0.03	0.02
R3	3	13	82.53	39.00	0.55	0.26	0.01	0.00	0.03	0.02
R4	4	13	82.53	39.00	0.55	0.26	0.01	0.00	0.03	0.02
R5	5	13	82.53	39.00	0.55	0.26	0.01	0.00	0.03	0.02
R6	6	13	82.53	39.00	0.55	0.26	0.01	0.00	0.03	0.02
R7	7	13	82.53	39.00	0.55	0.26	0.01	0.00	0.03	0.02
R8	8	30	190.45	90.00	1.27	0.60	0.02	0.01	0.08	0.04
R9	9	30	190.45	90.00	1.27	0.60	0.02	0.01	0.08	0.04
R10	10	30	190.45	90.00	1.27	0.60	0.02	0.01	0.08	0.04
R11	11	15	95.23	45.00	0.63	0.30	0.01	0.00	0.04	0.02
R12	12	26	165.06	78.00	1.10	0.52	0.02	0.01	0.07	0.03
R13	13	30	190.45	90.00	1.27	0.60	0.02	0.01	0.08	0.04
R14	14	30	190.45	90.00	1.27	0.60	0.02	0.01	0.08	0.04
	Totals	282	1,790.24	846.00	**11.91**	**5.63**	**0.18**	**0.08**	**0.72**	**0.34**

Section 9

Proof of Public Notice

(for NSR applications submitting under 20.2.72 or 20.2.74 NMAC)
(This proof is required by: 20.2.72.203.A.14 NMAC "Documentary Proof of applicant's public notice")

☐ **I have read the AQB "Guidelines for Public Notification for Air Quality Permit Applications"**
This document provides detailed instructions about public notice requirements for various permitting actions. It also provides public notice examples and certification forms. Material mistakes in the public notice will require a re-notice before issuance of the permit.

Unless otherwise allowed elsewhere in this document, the following items document proof of the applicant's Public Notification. Please include this page in your proof of public notice submittal with checkmarks indicating which documents are being submitted with the application.

New Permit and **Significant Permit Revision** public notices must include all items in this list.

Technical Revision public notices require only items 1, 5, 9, and 10.

Per the Guidelines for Public Notification document mentioned above, include:

1. ☑ A copy of the certified letter receipts with post marks (20.2.72.203.B NMAC)
2. ☐ A list of the places where the public notice has been posted in at least four publicly accessible and conspicuous places, including the proposed or existing facility entrance. (e.g: post office, library, grocery, etc.)
3. ☐ A copy of the property tax record (20.2.72.203.B NMAC).
4. ☐ A sample of the letters sent to the owners of record.
5. ☑ A sample of the letters sent to counties, municipalities, and Indian tribes.
6. ☐ A sample of the public notice posted and a verification of the local postings.
7. ☐ A table of the noticed citizens, counties, municipalities and tribes and to whom the notices were sent in each group.
8. ☐ A copy of the public service announcement (PSA) sent to a local radio station and documentary proof of submittal.
9. ☑ A copy of the classified or legal ad including the page header (date and newspaper title) or its affidavit of publication stating the ad date, and a copy of the ad. When appropriate, this ad shall be printed in both English and Spanish.
10. ☑ A copy of the display ad including the page header (date and newspaper title) or its affidavit of publication stating the ad date, and a copy of the ad. When appropriate, this ad shall be printed in both English and Spanish.
11. ☐ A map with a graphic scale showing the facility boundary and the surrounding area in which owners of record were notified by mail. This is necessary for verification that the correct facility boundary was used in determining distance for notifying land owners of record.

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

City of Sunland
1000 N Country Rd
Sunland Park, NM
88063

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☐ Agent ☐ Addressee

B. Received by (Printed Name) Heber Peraltes

C. Date of Delivery 10-28-14

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address

3. Service Type
☐ Certified Mail® ☐ Priority
☐ Registered ☐ Return
☐ Insured Mail ☐ Collec

4. Restricted Delivery? (Extra Fe

2. Article Number (Transfer from service label) 7013 3020 0002 3438 8989

PS Form 3811, July 2013 Domestic Return Receipt

7013 3020 0002 3438 8989

U.S. Postal Service™
CERTIFIED MAIL™ RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at www.usps.com®
SUNLAND PARK NM 88063

OFFICIAL USE

Postage	$ $0.49	0863
Certified Fee	$3.30	02
Return Receipt Fee (Endorsement Required)	$2.70	Postmark Here
Restricted Delivery Fee (Endorsement Required)	$0.00	OCT 27 2014
Total Postage & Fees	$ $6.49	10/27/2014

SUNLAND PARK NM 88063 USPS

Sent To City of Sunland
Street, Apt. No.;

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

FXI (Foamex
2500 Airport Rd
Santa Teresa, NM
88008

COMPLETE THIS SECTION ON DEL

A. Signature
X [signature]

B. Received by (Printed Name)

D. Is delivery address different from ite
If YES, enter delivery address belo

3. Service Type
☐ Certified Mail® ☐ Priority Ma
☐ Registered ☐ Return Re
☐ Insured Mail ☐ Collect on

4. Restricted Delivery? (Extra Fee)

2. Article Number

7013 3020 0002 3438 8972

U.S. Postal Service™
CERTIFIED MAIL™ RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at www.usps.com®
SANTA TERESA NM 88008

OFFICIAL USE

Postage	$ $0.49	0863
Certified Fee	$3.30	02
Return Receipt Fee (Endorsement Required)	$2.70	Postmark Here
Restricted Delivery Fee (Endorsement Required)	$0.00	OCT 27 2014
Total Postage & Fees	$ $6.49	10/27/2014

SUNLAND PARK NM 88063 USPS

Sent To Foamex
Street, Apt. No.; or PO Box No.
City, State, ZIP+4

PS Form 3800, August 2006 See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Dona Ana County
845 N. Motel Blvd
Las Cruces, NM
88007

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature]

B. Received by (Printed Name) C. D

D. Is delivery address different from item 1?
If YES, enter delivery address below:

3. Service Type
☐ Certified Mail® ☐ Priority Mail Expr
☐ Registered ☐ Return Receipt f
☐ Insured Mail ☐ Collect on Delive

4. Restricted Delivery? (Extra Fee)

2. Article Number (Transfer from service label) 7013 3020 0002 3438 8996

PS Form 3811, July 2013 Domestic Return Receipt

7013 3020 0002 3438 8996

U.S. Postal Service™
CERTIFIED MAIL™ RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at www.usps.com®
LAS CRUCES NM 88007

OFFICIAL USE

Postage	$ $0.49	0863
Certified Fee	$3.30	02
Return Receipt Fee (Endorsement Required)	$2.70	Postmark Here
Restricted Delivery Fee (Endorsement Required)	$0.00	OCT 27 2014
Total Postage & Fees	$ $6.49	10/27/2014

SUNLAND PARK NM 88063 USPS

Sent To Dona Ana
Street, Apt. No.; or PO Box No.
City, State, ZIP+4

PS Form 3800, August 2006 See Reverse for Instructions

Sterigenics

CERTIFIED MAIL

SAMPLE LETTER

October 27, 2014,

Clerk, Dona Ana County
845 N. Motel Blvd.
Las Cruces, NM 88007

Dear County Clerk:

According to New Mexico air quality regulations, the Sterigenics Santa Facility must announce its intent to apply to the New Mexico Environmental Department for an air quality permit revision for modification of its product sterilization facility. We anticipate submitting our application to the Air Quality Bureau on November 1, 2014.

The exact location of the facility is 2400 Airport Road, Santa Teresa, New Mexico 88008. The facility is located approximately 5 miles west of Interstate 10, near the intersection of Airport Road and Pete V. Domenici Highway.

The requested permit revision will allow for installation of an additional 30 pallet sterilization chamber and a 20 percent increase in the facility's allowed the usage of Ethylene Oxide and/or Propylene Oxide. The permit revision also covers connecting nine chamber backvents to an existing catalytic oxidizer control system for emissions treatment. Additionally, the revision updates equipment descriptions for several pieces of equipment identified as emission sources in our current permit. The proposed changes will reduce volatile organic compound emissions from current permit levels by approximately 5.4 pounds per hour and 2.6 tons per year.

The estimated maximum quantities for regulated air contaminates will be:

Pollutant:	Pounds per hour	Tons per year
PM_{10}	0.2	0.7
Sulfur Dioxide (SO_2)	0.1	0.1
Nitrogen Oxides (NOx)	2.2	9.6
Carbon Monoxide (CO)	1.8	8.0
Volatile Organic Compounds (VOC)	12.9	6.6
Ethylene Oxide/Propylene Oxide (HAP)	12.8	6.1

These emission estimates could change slightly during the course of the Department's review of the application.

The facility operates 24 hours each day, seven days a week and a maximum of 52 weeks per year.

The owner and owner's address of the facility is:

Sterigenics, U.S., LLC
2015 Spring Road - Suite 650
Oak Brook, Illinois 60523

Sterigenics - Santa Teresa Facility
2400 Airport Road • Santa Teresa, NM 88008
Tel 575.589.9300 • Fax 575.589.9727

Sterigenics

If you have any comments about the operation of the facility and want your comments to be made a part of the permit review process, you must submit your comments in writing to:

Permit Programs Manager
New Mexico Environmental Department
Air Quality Bureau
525 Camino de los Marquez, Suite 1
Santa Fe, New Mexico 87505-1816

Other comments and questions may be submitted verbally at:

Phone: (505) 476-4300

Please refer to the company name and facility name as used in this notice, or send a copy of this notice along with your comments since the Department may not have received the permit application at the time of this notice. Please include a legible mailing address with your comments. Once the Department has performed a preliminary review of the application and its air quality impacts, the Department's notice will be published in the legal section of a newspaper circulated near the facility's location.

Sincerely,

Original signed by Steve Ortiz

Steve Ortiz
Santa Teresa Facility General Manager

2400 Airport Road
Santa Teresa, NM 88008

Sterigenics - Santa Teresa Facility
2400 Airport Road • Santa Teresa, NM 88008
Tel 575.589.9300 • Fax 575.589.9727

SAMPLE

PUBLIC SERVICE ANNOUNCEMENT TEXT

The Sterigenics Santa Teresa New Mexico Facility announces it has applied to the New Mexico Environmental Department for an air quality permit revision for modification of its product sterilization facility. The facility is located at 2400 Airport Road, Santa Teresa, New Mexico, and is owned by Sterigenics, U.S., LLC in Oak Brook, Illinois.

The requested permit revision will allow for installation of an additional 30 pallet sterilization chamber and a 20 percent increase in the facility's allowed usage of Ethylene Oxide and/or Propylene Oxide. The permit revision also covers connecting nine chamber backvents to an existing catalytic oxidizer emission control system for emissions treatment. Additionally, the permit revision updates equipment descriptions for several pieces of equipment identified as emission sources in the current permit.

Postings of the public notice for the requested permit revision have been made at the following locations:

- The facility's main entrance
- Sunland Park Post Office
- Ay Cocula
- Santa Teresa Port of Entry

Comments on the proposed permit revision can be made to the New Mexico Air Quality Bureau by calling: (505) 476-4300 or (800) 224-7009, or by mailing to:

New Mexico Environmental Department
Air Quality Bureau
525 Camino de los Marquez, Suite 1
Santa Fe, New Mexico 87505-1816

Attachment 2 [delete this text]

Submittal of Public Service Announcement – Certification

I, Steve ORTIZ, the undersigned, certify that on **{DATE}**, submitted a public service announcement to **{RADIO\TV STATION NAME}** that serves the City\Town\Village of **{PLACE NAME}**, **{COUNTY NAME}** County, New Mexico, in which the source is or is proposed to be located and that **{RADIO\TV STATION NAME}** **{DID NOT RESPOND\RESPONDED THAT IT WOULD NOT AIR THE ANNOUNCEMENT\ RESPONDED THAT IT WOULD AIR THE ANNOUNCEMENT}.**

Signed this 11 day of November, 2014

Signature

11 NOV 14
Date

Steve ORTIZ
Printed Name

General Manager Sterigenics Santa Teresa
Title {APPLICANT OR RELATIONSHIP TO APPLICANT}

RADIO STATION KGRT THAT'S IN LAS CRUCES NM AND SERVES DOÑA ANA CO. and SOURONDING Counties.

Radio Ad has Run a total of 7 times As of 11 NOV 14

11-NOV 14

Revised: August 21, 2013

Attachment 1 [delete this text]

General Posting of Notices – Certification

I, STEVE ORTIZ, the undersigned, certify that on **{DATE}**, posted a true and correct copy of the attached Public Notice in the following publicly accessible and conspicuous places in the **{CITY\TOWN\VILLAGE}** of **{COUNTY NAME}** County, State of New Mexico on the following dates:

1. Facility entrance {DATE} STERIGENICS 2400 AIRPORT RD Santa Teresa 27 OCT 14
2. {Location 2}{DATE} AV COCULA 5325 McNUTT Rd, Santa Teresa 27 OCT 14 (EATERY)
3. {Location 3}{DATE} Sunland Park POST OFFICE Sunland Park NM 3500 McNutt Rd 27 OCT 14
4. {Location 4}{DATE} EL REY COLIMAN Santa Teresa Port of Entry 27 OCT 14 (EATERY)

Signed this 28th day of OCTOBER, 2014.

Signature

28 OCT 14
Date

STEVE ORTIZ
Printed Name

GENERAL MANAGER STERIGENICS Santa Teresa
Title {APPLICANT OR RELATIONSHIP TO APPLICANT}

www.lcsun-news.com

LAS CRUCES SUN-NEWS

PROOF OF PUBLICATION

I, being duly sworn, Frank Leto deposes and says that he is the Publisher of the Las Cruces Sun -News, a newspaper published daily in the county of Dona Ana, State of New Mexico; that the notice 54441 is an exact duplicate of the notice that was published once a week/day in regular and entire issue of said newspaper and not in any supplement thereof for 1 consecutive week(s)/day(s), the first publication was in the issue dated October 29, 2014, the last publication was October 29, 2014

Despondent further states this newspaper is duly qualified to publish legal notice or advertisements within the meaning of Sec. Chapter 167, Laws of 1937.

Signed

Publisher
Official Position

STATE OF NEW MEXICO
ss.
County of Dona Ana
Subscribed and sworn before me this
31st **day of** October, 2014

Notary Public in and for
Dona Ana County, New Mexico

9th June, 2018
My Term Expires

OFFICIAL SEAL
CARLA D. DEEMER
NOTARY PUBLIC-State of New Mexico
My Commission Expires 6/9/18

NOTICE OF AIR QUALITY PERMIT APPLICATION

The Sterigenics Santa Teresa New Mexico Facility announces its intent to apply to the New Mexico Environmental Department for an air quality permit revision for modification of its product sterilization facility. The expected date of application submittal to the Air Quality Bureau is November 1, 2014. This notice is a requirement according to New Mexico air quality regulations.

The exact location of the facility is 2400 Airport Road, Santa Teresa, New Mexico 88008. The facility is located approximately 5 miles west of Interstate 10, near the intersection of Airport Road and Pete V. Domenici Highway.

The requested permit revision will allow for installation of an additional 30 pallet sterilization chamber and a 20 percent increase in the facility's allowed usage of Ethylene Oxide and/or Propylene Oxide. The permit revision also covers connecting nine chamber backvents to an existing catalytic oxidizer control system for emissions treatment. Additionally, the permit revision updates equipment descriptions for several pieces of equipment identified as emission sources in the current permit. The proposed changes will reduce volatile organic compound emissions from current permit levels by approximately 5.4 pounds per hour and 2.6 tons per year. The estimated maximum quantities for regulated air contaminates will be:

Pollutant: PM10
Pounds per hour: 0.2
Tons per year: 0.7
Pollutant: Sulfur Dioxide (SO2)

Pounds per hour: 0.1 Tons per year: 0.1
Pollutant: Nitrogen Oxides (NOx)

Pounds per hour: 2.2
Pounds per year: 9.6

www.lcsun-news.com

LAS CRUCES SUN-NEWS

Pollutant: Carbon Monoxide (CO)

Pounds per hour: 1.8 Pounds per year: 8.0
Pollutant: Volatile Organic Compounds (VOC) Pounds per hour: 12.9
Pounds per year: 6.6
Pollutant: Ethylene Oxide/Propylene Oxide (HAPs)
Pounds per hour: 12.8 Pounds per year: 6.1

These emission estimates could change slightly during the course of the Department's review of the application.

The facility operates 24 hours each day, seven days a week and a maximum of 52 weeks per year.

The owner /operator of the facility is:
Sterigenics, U.S., LLC
2015 Spring Road - Suite 650
Oak Brook, Illinois 60523

If you have any comments about the construction or operation of the facility and want your comments to be made a part of the permit review process, you must submit your comments in writing to:

Permit Programs Manager
New Mexico Environmental Department
Air Quality Bureau
525 Camino de los Marquez, Suite 1
Santa Fe, New Mexico 87505-1816
(505) 476-4300

Other comments and questions may be submitted verbally.

Please refer to the company name and facility name as used in this notice, or send a copy of this notice along with your comments since the Department may not have received the permit application at the time of this notice. Please include a legible mailing address with your comments. Once the Department has performed a preliminary review of the application and its air quality impacts, the Department's notice will be published in the legal section of a newspaper circulated near the facility's location.

AVISO DE SOLICITUD DE PERMISO SOBRE LA CALIDAD DEL AIRE

La planta de esterilización Steigenics, localizada en Santa Teresa Nuevo Mexico, anuncia su intención de solicitar la revisión para la modificación de su permiso para la calidad del aire al Departamento del Ambiente del Estado de Nuevo Mexico. La fecha prevista por la Agencia de la Calidad del Aire para el envío de dicha solicitud es el 1ero. de Noviembre del 2014.

La ubicación exacta de la planta se encuentra en la calle 2400 Airport Road en la ciudad de Santa Teresa Nuevo Mexico que esta localizada aproximadamente a 5 millas al Oeste de la interestatal 10 y muy cerca de la intersección con la carretera Pete V. Domenici.

La revisión del permiso solicitado permitirá la adición de una cámara de esterilización de 30 tarimas y un incremento del 20% del uso de Óxido de Etileno u Óxido de Propileno, ya permitido a la planta. Además, cubrirá la conexión de nueve ventiladores de las cámaras de esterilización al sistema de control del oxido catalítico para el tratamiento de emisiones ya existente. Aunado a lo anterior, la revisión del permiso actualiza las descripciones de varias piezas de los equipos identificados como fuentes de emisión en el permiso actual. Dichos cambios reducirán las emisiones de compuestos orgánicos volátiles de los niveles actuales permitidos por aproximadamente 5.4 libras por hora y 2.6 toneladas por año.

Las cantidades máximas estimadas para el uso regulado de contaminantes del aire serán los siguientes:

Contaminante: PM10 0
Libras por hora: 0.2
Toneladas por ano: 0.7
Contaminante: Dióxido Sulfúrico (SO2)

www.lcsun-news.com

LAS CRUCES SUN-NEWS

Libras por hora: 0.1
Toneladas por ano: 0.1
Contaminante: Óxido de Nitrógeno (NOx)
Libras por hora: 2.2
Toneladas por ano: 9.6
Contaminante: Monóxido de Carbono (CO)
Libras por hora: 1.8
Toneladas por ano: 8.0
Contaminante: Compuestos Orgánicos Volátiles (VOC)
Libras por hora: 12.9
Toneladas por ano: 6.6
Contaminante: Óxido de Etileno/Óxido de Propileno (HAPs)
Libras por hora: 12.8
Toneladas por ano: 6.1

Las estimaciones sobre las emisiones podrían cambiar ligeramente durante el proceso de revisión de la solicitud por el departamento.

La planta opera las 24 horas del dia, siete días a la semana con un máximo de 52 semanas por año.

El dueño/operador de dicha planta es:
Sterigenics, U.S., LLC
2015 Spring Road - Suite 650
Oak Brook, Illinois 60523

Si usted tiene algún comentario acerca de la construcción u operación de la planta y quiere que sus comentarios sean parte del proceso de revisión del permiso, deberá dirigir sus comentarios por escrito a:
Permit Programs Manager
New Mexico Environmental Department
Air Quality Bureau
525 Camino de los Marquez, Suite 1
Santa Fe, New Mexico 87505-181
(505) 476-4300

Otros comentarios y preguntas podrán ser presentadas verbalmente.

Favor de referirse al nombre de la compañía y de la planta mencionada en este aviso o enviar una copia del aviso con sus comentarios dado que el departamento puede no haber recibido la solicitud del permiso al momento de este aviso. Favor de incluir una dirección de correo con sus comentarios. Una vez que el departamento haya realizado una revisión preliminar de la solicitud y su impacto en la calidad del aire, su notificación será publicada en la sección legal del periódico de más circulación cerca de la planta.

Pub #54442
Run Dates: Oct 29, 31, 2014

LEGAL

Legal Notices 152

LAS CRUCES PUBLIC SCHOOL DISTRICT IS SELLING SURPLUS INVENTORY ON THE INTERNET

*WEIGHT ROOM EQUIPMENT
*MISCELLANEOUS STUDENT TABLES
*MISCELLANEOUS STUDENT SEATING
*STUDENT TABLET ARM CHAIRS

For great bargains visit:
www.publicsurplus.com

FREE ACCESS FOR THE PUBLIC
Keep Checking The Above Website

Pub #54441
Run Date: Oct 29, 2014

Members of the public are invited to provide comment on hearings for the issuance of or transfers of liquor licenses as outlined below. All hearings will be conducted at the NM Alcohol & Gaming Division Offices on the date specified in the Toney Anaya Bldg., 2550 Cerrillos Road, 2nd Floor, Santa Fe, NM. The Hearing Officer for this Application is Pamela Brommer who can be contacted at 505-476-4548 or pamela.brommer@state.nm.us

Application A-931079 for the Issuance of a Restaurant Liquor License on November 5, 2014 at 2:00 p.m. Applicant is R Galvan LLC, d/b/a Miguel's Restaurant located at 1140 E Amador Avenue Las Cruces, New Mexico.

Pub #54433
Run Date: Oct 29, 2014

NOTICE OF AIR QUALITY PERMIT APPLICATION

The Sterigenics Santa Teresa New Mexico Facility announces its intent to apply to the New Mexico Environmental Department for an air quality permit revision for modification of its product sterilization facility. The expected date of application submittal to the Air Quality Bureau is November 1, 2014. This notice is a requirement according to New Mexico air quality regulations.

The exact location of the facility is 2400 Airport Road, Santa Teresa, New Mexico 88008. The facility is located approximately 5 miles west of Interstate 10, near the intersection of Airport Road and Pete V. Domenici Highway.

The requested permit revision will allow for installation of an additional 30 pallet sterilization chamber and a 20 percent increase in the facility's allowed usage of Ethylene Oxide and/or Propylene Oxide. The permit revision also covers connecting nine chamber backvents to an existing catalytic oxidizer control system for emissions treatment. Additionally, the permit revision updates equipment descriptions for several pieces of equipment identified as emission sources in the current permit. The proposed changes will reduce volatile organic compound emissions from current permit levels by approximately 5.4 pounds per hour and 2.6 tons per year.
The estimated maximum quantities for regulated air contaminates will be:

Pollutant: PM10
Pounds per hour: 0.2
Tons per year: 0.7
Pollutant: Sulfur Dioxide (SO2)
Pounds per hour: 0.1
Tons per year: 0.1
Pollutant: Nitrogen Oxides (NOx)
Pounds per hour: 2.2
Pounds per year: 9.6
Pollutant: Carbon Monoxide (CO)
Pounds per hour: 1.8
Pounds per year: 8.0
Pollutant: Volatile Organic Compounds (VOC)
Pounds per hour: 12.9
Pounds per year: 6.6
Pollutant: Ethylene Oxide/Propylene Oxide (HAPs)
Pounds per hour: 12.8
Pounds per year: 6.1

These emission estimates could change slightly during the course of the Department's review of the application.

The facility operates 24 hours each day, seven days a week and a maximum of 52 weeks per year.

The owner /operator of the facility is:
Sterigenics, U.S., LLC
2015 Spring Road - Suite 650
Oak Brook, Illinois 60523

If you have any comments about the construction or operation of the facility and want your comments to be made a part of the permit review process, you must submit your comments in writing to:
Permit Programs Manager
New Mexico Environmental Department
Air Quality Bureau
525 Camino de los Marquez, Suite 1
Santa Fe, New Mexico 87505-1816
(505) 476-4300

Other comments and questions may be submitted verbally.

Please refer to the company name and facility name as used in this notice, or send a copy of this notice along with your comments since the Department may not have received the permit application at the time of this notice. Please include a legible mailing address with your comments. Once the Department has performed a preliminary review of the application and its air quality impacts, the Department's notice will be published in the legal section of a newspaper circulated near the facility's location.

AVISO DE SOLICITUD DE PERMISO SOBRE LA CALIDAD DEL AIRE

La planta de esterilización Steigenics, localizada en Santa Teresa Nuevo Mexico, anuncia su intención de solicitar la revisión para la modificación de su permiso para la calidad del aire al Departamento del Ambiente del Estado de Nuevo Mexico. La fecha prevista por la Agencia de la Calidad del Aire para el envío de dicha solicitud es el 1ero. de Noviembre del 2014.

La ubicación exacta de la planta se encuentra en la calle 2400 Airport Road en la ciudad de Santa Teresa Nuevo Mexico que esta localizada aproximadamente a 5 millas al Oeste de la interestatal 10 y muy cerca de la intersección con la carretera Pete V. Domenici.

La revisión del permiso solicitado permitirá la adición de una cámara de esterilización de 30 tarimas y un incremento del 20% del uso de Óxido de Etileno u Óxido de Propileno, ya permitido a la planta. Además, cubrirá la conexión de nueve ventiladores de las cámaras de esterilización al sistema de control del oxido catalítico para el tratamiento de emisiones ya existente. Aunado a lo anterior, la revisión del permiso actualiza las descripciones de varias piezas de los equipos identificados como fuentes de emisión en el permiso actual. Dichos cambios reducirán las emisiones de compuestos orgánicos volátiles de los niveles actuales permitidos por aproximadamente 5.4 libras por hora y 2.6 toneladas por año.

Las cantidades máximas estimadas para el uso regulado de contaminantes del aire serán los siguientes:

Contaminante: PM10
Libras por hora: 0.2
Toneladas por ano: 0.7
Contaminante: Dióxido Sulfúrico (SO2)
Libras por hora: 0.1
Toneladas por ano: 0.1
Contaminante: Oxido de Nitrógeno (NOx)
Libras por hora: 2.2
Toneladas por ano: 9.6
Contaminante: Monóxido de Carbono (CO)
Libras por hora: 1.8
Toneladas por ano: 8.0
Contaminante: Compuestos Orgánicos Volátiles (VOC)
Libras por hora: 12.9
Toneladas por ano: 6.6
Contaminante: Óxido de Etileno/Oxido de Propileno (HAPs)
Libras por hora: 12.8
Toneladas por ano: 6.1

Las estimaciones sobre las emisiones podrían cambiar ligeramente durante el proceso de revisión de la solicitud por el departamento.

La planta opera las 24 horas del dia, siete días a la semana con un máximo de 52 semanas por año.

El dueño/operador de dicha planta es:
Sterigenics, U.S., LLC
2015 Spring Road - Suite 650
Oak Brook, Illinois 60523

Si usted tiene algún comentario acerca de la construcción u operación de la planta y quiere que sus comentarios sean parte del proceso de revisión del permiso, deberá dirigir sus comentarios por escrito a:
Permit Programs Manager
New Mexico Environmental Department
Air Quality Bureau
525 Camino de los Marquez, Suite 1
Santa Fe, New Mexico 87505-181
(505) 476-4300

Otros comentarios y preguntas podrán ser presentadas verbalmente.

Favor de referirse al nombre de la compañía y de la planta mencionada en este aviso o enviar una copia del aviso con sus comentarios dado que el departamento puede no haber recibido la solicitud del permiso al momento de este aviso. Favor de incluir una dirección de correo con sus comentarios. Una vez que el departamento haya realizado una revisión preliminar de la solicitud y su impacto en la calidad del aire, su notificación será publicada en la sección legal del periódico de más circulación cerca de la planta.

Pub #54442
Run Dates: Oct 29, 31, 2014

NOTICE OF AIR QUALITY PERMIT APPLICATION

The Sterigenics Santa Teresa New Mexico Facility announces its intent to apply to the New Mexico Environmental Department for an air quality permit revision for modification of its product sterilization facility. The expected date of application submittal to the Air Quality Bureau is November 1, 2014. This notice is a requirement according to New Mexico air quality regulations.

The exact location of the facility is 2400 Airport Road, Santa Teresa, New Mexico 88008. The facility is located approximately 5 miles west of Interstate 10, near the intersection of Airport Road and Pete V. Domenici Highway.

The requested permit revision will allow for installation of an additional 30 pallet sterilization chamber and a 20 percent increase in the facility's allowed usage of Ethylene Oxide and/or Propylene Oxide. The permit revision also covers connecting nine chamber backvents to an existing catalytic oxidizer control system for emissions treatment. Additionally, the permit revision updates equipment descriptions for several pieces of equipment identified as emission sources in the current permit. The proposed changes will reduce volatile organic compound emissions from current permit levels by approximately 5.4 pounds per hour and 2.6 tons per year.

The estimated maximum quantities for regulated air contaminates will be:

Pollutant:	Pounds per hour	Tons per year
PM_{10}	0.2	0.7
Sulfur Dioxide (SO_2)	0.1	0.1
Nitrogen Oxides (NOx)	2.2	9.6
Carbon Monoxide (CO)	1.8	8.0
Volatile Organic Compounds (VOC)	12.9	6.6
Ethylene Oxide/Propylene Oxide	12.8	6.1

These emission estimates could change slightly during the course of the Department's review of the application.

The facility operates 24 hours each day, seven days a week and a maximum of 52 weeks per year.

The owner /operator of the facility is:

Sterigenics, U.S., LLC
2015 Spring Road - Suite 650
Oak Brook, Illinois 60523

If you have any comments about the construction or operation of the facility and want your comments to be made a part of the permit review process, you must submit your comments in writing to:

Permit Programs Manager
New Mexico Environmental Department
Air Quality Bureau
525 Camino de los Marquez, Suite 1
Santa Fe, New Mexico 87505-1816
(505) 476-4300

Other comments and questions may be submitted verbally.

Please refer to the company name and facility name as used in this notice, or send a copy of this notice along with your comments since the Department may not have received the permit application at the time of this notice. Please include a legible mailing address with your comments. Once the Department has performed a preliminary review of the application and its air quality impacts, the Department's notice will be published in the legal section of a newspaper circulated near the facility's location.

AVISO DE SOLICITUD DE PERMISO SOBRE LA CALIDAD DEL AIRE

La planta de esterilización Steigenics, localizada en Santa Teresa Nuevo Mexico, anuncia su intención de solicitar la revisión para la modificación de su permiso para la calidad del aire al Departamento del Ambiente del Estado de Nuevo Mexico. La fecha prevista por la Agencia de la Calidad del Aire para el envío de dicha solicitud es el 1ero. de Noviembre del 2014.

La ubicación exacta de la planta se encuentra en la calle 2400 Airport Road en la ciudad de Santa Teresa Nuevo Mexico que esta localizada aproximadamente a 5 millas al Oeste de la interestatal 10 y muy cerca de la intersección con la carretera Pete V. Domenici.

La revisión del permiso solicitado permitirá la adición de una cámara de esterilización de 30 tarimas y un incremento del 20% del uso de Óxido de Etileno u Óxido de Propileno, ya permitido a la planta. Además, cubrirá la conexión de nueve ventiladores de las cámaras de esterilización al sistema de control del oxido catalítico para el tratamiento de emisiones ya existente. Aunado a lo anterior, la revisión del permiso actualiza las descripciones de varias piezas de los equipos identificados como fuentes de emisión en el permiso actual. Dichos cambios reducirán las emisiones de compuestos orgánicos volátiles de los niveles actuales permitidos por aproximadamente 5.4 libras por hora y 2.6 toneladas por año.

Las cantidades máximas estimadas para el uso regulado de contaminantes del aire serán los siguientes:

Contaminante:	Libras por hora	Toneladas por año
PM_{10}	0.2	0.7
Dióxido Sulfúrico (SO_2)	0.1	0.1
Óxido de Nitrógeno (NOx)	2.2	9.6
Monóxido de Carbono (CO)	1.8	8.0
Compuestos Orgánicos Volátiles (COV)	12.9	6.6
Óxido de Etileno/Óxido de Propileno (HAPs)	12.8	6.1

Las estimaciones sobre las emisiones podrían cambiar ligeramente durante el proceso de revisión de la solicitud por el departamento.

La planta opera las 24 horas del día, siete días a la semana con un máximo de 52 semanas por año.

El dueño/operador de dicha planta es:

Sterigenics, U.S., LLC
2015 Spring Road – Suite 650
Oak Brook, Illinois 60523

Si usted tiene algún comentario acerca de la construcción u operación de la planta y quiere que sus comentarios sean parte del proceso de revisión del permiso, deberá dirigir sus comentarios por escrito a:

Permit Programs Manager
New Mexico Environmental Department
Air Quality Bureau
525 Camino de los Marquez, Suite 1
Santa Fe, New Mexico 87505-181
(505) 476-4300

Otros comentarios y preguntas podrán ser presentadas verbalmente.

Favor de referirse al nombre de la compañía y de la planta mencionada en este aviso o enviar una copia del aviso con sus comentarios dado que el departamento puede no haber recibido la solicitud del permiso al momento de este aviso. Favor de incluir una dirección de correo con sus comentarios. Una vez que el departamento haya realizado una revisión preliminar de la solicitud y su impacto en la calidad del aire, su notificación será publicada en la sección legal del periódico de más circulación cerca de la planta.

STERIGENICS · OAKBROOK, ILLINOIS 10/23/2014 **Check No. 307221** 00307221

NEW MEXICO ENVIRONMENT DEPT

Document No.	Document Date	Amount	Discount	Net Amount
AIR PERMIT FOR NEW CHA	10/20/14	500.00		500.00
			Total:	**500.00**

STERIGENICS · OAKBROOK, ILLINOIS 630.928.1700 · PLEASE DETACH CHECK AT THE PERFORATION BELOW

THIS CHECK IS VOID WITHOUT A BLUE & GREEN BACKGROUND AND AN ARTIFICIAL WATERMARK ON THE BACK - HOLD AT ANGLE TO VIEW

JP Morgan Chase Bank, N.A. 70-2322 / 719 00307221

Sterigenics.

2015 SPRING ROAD, SUITE 650, OAKBROOK, ILLINOIS 60523

DATE 10 02 2014 (MM DD YYYY)

FIVE HUNDRED AND 00/100********** $*******500.00

Pay to the Order Of
NEW MEXICO ENVIRONMENT DEPT
AIR QUALITY BUREAU
1301-B SILER ROAD
SANTA FE NM 87507

AUTHORIZED SIGNATURE

AUTHORIZED SIGNATURE

SIGNATURE HAS A COLORED BACKGROUND · BORDER CONTAINS MICROPRINTING

Form 604-BG

⑈00307221⑈ ⑆071923226⑆ 500731438⑈

ED_005212_00004259-00031

New Mexico
ENVIRONMENT DEPARTMENT

525 Camino de los Marquez, Suite 1
Santa Fe, NM 87505
Phone (505) 476-4300
Fax (505) 476-4375
www.nmenv.state.nm.us

SUSANA MARTINEZ
GOVERNOR

JOHN A. SANCHEZ
LIEUTENANT GOVERNOR

RYAN FLYNN
CABINET SECRETARY

BUTCH TONGATE
DEPUTY SECRETARY

AIR QUALITY BUREAU
NEW SOURCE REVIEW PERMIT
Issued under 20.2.72 NMAC

Certified Mail No: 7005 1820 0001 5773 4411
Return Receipt Requested

NSR Permit No:	0733-M15-R1
Facility Name:	Sterigenics-Santa Teresa, NM
Permittee Name:	Sterigenics US., LLC
Mailing Address:	2015 Spring Road, Suite 650 Oak Brook, IL 60523
TEMPO/IDEA ID No:	127-PRN20140001
AIRS No:	35-013-0007
Permitting Action:	Technical Permit Revision
Source Classification:	HAP and VOC Synthetic Minor
Facility Location:	31°51'38" N and 106°41'17" W
County:	Dona Ana
Air Quality Bureau Contact	Rhonda Trujillo
Main AQB Phone No.	(505) 476-4300

Richard L. Goodyear, PE
Bureau Chief
Air Quality Bureau

DEC 23 2014
Date

Template version: 10/30/14

TABLE OF CONTENTS

PART A FACILITY SPECIFIC REQUIREMENTS

A100 Introduction

A. This permit, NSR 0733-M15-R1, supersedes all portions of Air Quality Permit 0733-M15, issued June 13, 2013, except the portion requiring compliance tests. Compliance test conditions from previous permits, if not completed, are still in effect, in addition to compliance test requirements contained in this permit.

B. Fee Requirement: This permit is not effective until the Department receives the permit fee specified in the attached invoice. Pursuant to 20.2.75.12 NMAC, the permittee shall pay this invoice no later than thirty (30) days after the permit issue date (invoicing), unless the Department has granted an extension. The permit fee must be paid by this date regardless of the permittee's intended use or non-use of the permit or of the Department's cancellation of the permit. The permittee's failure to pay this fee when due will automatically void the permit and the Department may initiate enforcement action to collect the fee and assess a civil penalty for non-payment. The permittee shall not construct the new equipment in Table 104 before the date that the Department receives the permit fee in full. The Department may initiate enforcement action for injunctive relief and civil penalties for any construction or operation specified in this technical revision, 0733M15R1, if the permit fee is not paid by the due date.

A101 Permit Duration (expiration)

A. The term of this permit is permanent unless withdrawn or cancelled by the Department.

A102 Facility: Description

A. The function of the facility is to sterilize medical devices and food products by exposure to ethylene oxide and propylene oxide gases.

B. This facility is located approximately 2 miles northwest of Santa Teresa, New Mexico in Dona Ana County.

C. This modification consists of:

(1) Installation of a new 30-pallet sterilization chamber (Chamber 14), including associated process emissions from a new vacuum pump and chamber back vent. The vacuum pump is rated at 550 cfm and will exhaust process emissions from the new chamber directly to the facility's existing Ceilcote scrubber system. The Ceilcote system control efficiency for the new vacuum pump will be $\geq$ 99.3%. The chamber backvent consists of residual Ethylene Oxide (EO) or Propylene Oxide (PO) process emissions produced at the conclusion of each chamber sterilization cycle. The new Chamber 14 backvent will exhaust to the facility's existing Donaldson catalytic oxidizer system via an existing inlet duct. The Donaldson system control efficiency for the Chamber 14 backvent will be $\geq$ 99%.

(2) Increasing the facility's cap on the usage of EO or PO by 20% to accommodate the new chamber mentioned above. The 20% increase will revise the EO/PO usage caps to: 1,692,000 lbs/year and 1,790 lbs/hour.

(3) Rerouting the facility's remaining nine (9) backvent emissions which currently are uncontrolled, to the existing Donaldson catalytic oxidizer for emissions treatment. (Note: The backvents for Chambers 8, 9, 10 and 13 were re-routed to the Donaldson system in 2013. This request entails rerouting backvents for Chambers 1, 2, 3, 4, 5, 6, 7, 11 and 12.) This change will result in all chamber backvents receiving emissions treatment to a minimum control efficiency of 99%.

(4) Updating equipment descriptions in the current permit (shown in Table 104) for several listed emission sources. These revisions pertain only to "like-for-like" equipment replacements made in recent years. The new equipment has the same capacity and/or level of emissions as the replaced equipment.

D. Table 102.A and Table 102.B show the total potential emissions from this facility for information only, not an enforceable condition, excluding exempt sources or activities.

Table 102.A: Total Potential Pollutant Emissions from Entire Facility

Pollutant	Emissions (tons per year)
Nitrogen Oxides (NOx)	9.6
Carbon Monoxide (CO)	8.0
Volatile Organic Compounds (VOC) *	6.6
Sulfur Dioxide (SO_2)	<1
Particulate Matter less than 10 microns (PM_{10})	<1

Table 102.B: Total Potential HAP Emissions from Entire Facility

Pollutant	Emissions (tons per year)
Ethylene Oxide	6.1
Propylene Oxide	
Total HAPs**	6.1

* HAP emissions are already included in the VOC emission total.

** The total HAP emissions may not agree with the sum of individual HAPs because only individual HAPs greater than 1.0 tons per year are listed here.

A103 Facility: Applicable Regulations

A. The permittee shall comply with all applicable sections of the requirements listed in Table 103.A.

Table 103.A: Applicable Requirements

Applicable Requirements	Federally Enforceable	Unit No.
20.2.1 NMAC General Provisions	X	Entire Facility
20.2.3 NMAC Ambient Air Quality Standards	X	Entire Facility
20.2.7 NMAC Excess Emissions	X	Entire Facility
20.2.61 NMAC Smoke and Visible Emissions	X	Bx and CD3
20.2.72 NMAC Construction Permit	X	Entire Facility
20.2.73 NMAC Notice of Intent and Emissions Inventory Requirements	X	Entire Facility
20.2.75 NMAC Construction Permit Fees	X	Entire Facility
20.2.82 NMAC MACT Standards for Source Categories of HAPS	X	Entire Facility
40 CFR 50 National Ambient Air Quality Standards	X	Entire Facility
40 CFR 63, Subpart A, General Provisions	X	Sterilization Equipment
40 CFR 63, Subpart O Ethylene Oxide Emissions Standards for Sterilization Facilities	X	Sterilization Equipment

A104 Facility: Regulated Sources

A. Table 104 lists the emission units authorized for this facility. Emission units identified as exempt activities (as defined in 20.2.72.202 NMAC) and/or equipment not regulated pursuant to the Act are not included.

Table 104: Regulated Sources List

Unit No.	Source Description	Make & Model No.	Serial No.	Capacity	Mfr. Date	Status	Controls
S-1	Sterilizer #1 Vacuum Pump	Dekker DV02516 DA2	050926G03	250 cfm	2006	Existing	Controlled by Acid-Water Scrubber (Unit CD-2 or CD-1) at 99.3% reduction efficiency
S-2	Sterilizer #2 Vacuum Pump	Dekker DV02516 DA2	050725G07	250 cfm	2006	Existing	
S-3	Sterilizer #3 Vacuum Pump	Dekker DV0251B DA3	060920G01	250 cfm	TBD	Replacement Unit	
S-4	Sterilizer #4 Vacuum Pump	Dekker DV025OB DA2	12005	250 cfm	TBD	Replacement Unit	
S-5	Sterilizer #5 Vacuum Pump	Dekker DV0251B DA2	060610G03	250 cfm	TBD	Replacement Unit	
S-6	Sterilizer #6 Vacuum Pump	Dekker DV0251B DA3	070129G03	250 cfm	TBD	Replacement Unit	
S-7	Sterilizer #7 Vacuum Pump	Dekker DV0550B KA2	070323G11	550 cfm	TBD	Replacement Unit	
S-8	Sterilizer #8 Vacuum Pumps for 30 Pallet Chamber	Dekker PUMP A&B DV0550B KA3	C02373602/C 02373601	2 @ 550 cfm	TBD	Replacement Unit	
S-9	Sterilizer #9 Vacuum Pumps for 30 Pallet Chamber	Dekker DV0550B KA3/ DV0550B-KA2	060427G05/ C02373609	2 @ 550 cfm	TBD	Replacement Unit	
S-10	Sterilizer #10 Vacuum Pumps for 30 Pallet Chamber	Dekker DVB0550B KA2	071031G06	550 cfm	TBD	Replacement Unit	
S-11	Sterilizer #11 Vacuum Pump for 15 pallet chamber	Dekker DV0550B KA2	050628G02	550 cfm	TBD	Replacement Unit	
S-12	Sterilizer #12 Vacuum Pump for 30 pallet chamber	Sterling SIHI LEHA 900 AB	BFK4SP	550 cfm	2006	Existing	
S-13	Sterilizer #13 Vacuum Pump for 30 Pallet Chamber	Dekker DVO550-KA2	O61031G10	550 cfm	2007	New 2007	

Unit No.	Source Description	Make & Model No.	Serial No.	Capacity	Mfr. Date	Status	Controls
S-14	Sterilizer #14 Vacuum Pump for 30 Pallet Chamber	TBD	TBD	TBD	TBD	TBD	Controlled by Catalytic Oxidizer (Unit CD-3) at 99% reduction efficiency.
AR 8	Aeration Room 8	Blower	--	9000 cfm	2006	Modified 2007	
AR09	Aeration Room 9	Blower	--	6000 cfm	2010	Modified 2013	
BV-1	Back Vent Exhaust for S-1	Captive Air BI18CARM	455172	3,000 cfm	1986	To be Modified	
BV-2	Back Vent Exhaust for S-2	Captive Air BI18CARM	404418	3,000 cfm	1986	To be Modified	
BV-3	Back Vent Exhaust for S-3	Dayton UK	D2C799A	1,800 cfm	1986	To be Modified	
BV-4	Back Vent Exhaust for S-4	Dayton UK	2C799A	1,800 cfm	1986	To be Modified	
BV-5	Back Vent Exhaust for S-5	Dayton UK	13C074A	1,800 cfm	1986	To be Modified	
BV-6	Back Vent Exhaust for S-6	Dayton UK	D3C074A	1,800 cfm	1986	To be Modified	
BV-7	Back Vent Exhaust for S-7	Dayton UK	10C074A	1,800 cfm	1995	To be Modified	
BV-11	Back Vent Exhaust for S-11	Greenheck 12-BISW-41-10-11	05L11546	1,800 cfm	2005	To be Modified	
BV-12	Back Vent Exhaust for S-12	Greenheck 12-BISW-41-10-11	5647269-12982637	2,000 cfm	3/28/07	To be Modified	
BV-8	Back Vent Exhaust for S-8	Greenheck 12-BISW41-X-10-11	118657780909	1800 cfm	3/16/10	New 2013	
BV-9	Back Vent Exhaust for S-9	Greenheck 12-BISW41-10-11	123271141102	1800 cfm	3/08/11	New 2013	
BV-10	Back Vent Exhaust for S-10	Greenheck 12-BISW41-X-10-11	118724370909	1800 cfm	2/17/10	New 2013	
BV-13	Back Vent Exhaust for S-13	Greenheck 12-BISW-41	07B02982	1,800 cfm	8/13/07	New 2013	
BV-14	Back Vent Exhaust for S-14	TBD	TBD	TBD	TBD	TBD	

Unit No.	Source Description	Make & Model No.	Serial No.	Capacity	Mfr. Date	Status	Controls
CD-1	Acid-Water Scrubber	Deoxx 88-485	None	600 cfm	1989	Existing	Back-up for CD-2
CD-2	Acid-Water Scrubber	Ceilcote SPT-54-240	81318	2500 cfm	2004	Existing	Controls S-1 to S-14
CD-3	Catalytic Oxidizer	Donaldson 20,000 AG EtO Abator	None	20,000 cfm	1991	Existing	Controls AR 08, AR 09, BV 1-14
Bx	Any combination of natural gas boilers not to exceed a manufactures energy input rating of 18 MM Btu/hr	Various	Various	18 MM Btu/hr (Combined Max)	N/A	N/A	N/A

1. All TBD (to be determined) units and like-kind engine replacements must be evaluated for applicability to NSPS and NESHAP requirements.

A105 Facility: Control Equipment

A. Table 105 lists all the pollution control equipment required for this facility. Each emission point is identified by the same number that was assigned to it in the permit application.

Table 105: Control Equipment List:

Control Equipment Unit No.	Control Description	Pollutant being controlled	Control for Unit Number(s)[1]
CD-1	Deoxx Acid-Water Scrubber System	Ethylene Oxide, Propylene Oxide	S-1 – S-14, (Back-up to CD-2)
CD-2	Ceilcote Acid-Water Scrubber System	Ethylene Oxide, Propylene Oxide	S-1- S-14
CD-3	Donaldson 20,000 AG EtO Abator	Ethylene Oxide, Propylene Oxide	AR-08, AR-09, BV-1 – BV-14

1. Control for unit number refers to a unit number from the Regulated Equipment List

A106 Facility: Allowable Emissions

A. The following Section lists the emission units and their allowable emission limits. (40 CFR 50, 40 CFR 63, Subparts A and O, 20.2.72.210.A and B.1 NMAC).

Table 106.A: Allowable Emissions

Unit No.	NO_x[1] pph	NO_x[1] tpy	CO pph	CO tpy	VOC pph	VOC tpy	EO or PO pph	EO or PO tpy
CD-1 or CD-2	-	-	-	-	*	5.7	*	5.7
CD-3	<	1.7	<	1.4	<	<	0.9	0.4

1 Nitrogen dioxide emissions include all oxides of nitrogen expressed as NO_2

2 "-" indicates the application represented emissions of this pollutant are not expected.
"<" indicates the application represented uncontrolled emissions are less than 1.0 pph or 1.0 tpy for this pollutant. Allowable limits are not imposed on this level of emissions, except for flares and pollutants with controls.
"*" indicates hourly emission limits are not appropriate for this operating situation.

A107 Facility: Allowable Startup, Shutdown, & Maintenance (SSM) and Malfunction Emissions

A. Separate allowable SSM emission limits are not required for this facility since the SSM emissions are predicted to be less than the limits established in Table 106A. The permittee shall maintain records in accordance with Condition B109.C.

A108 Facility: Allowable Operations

A. This facility is authorized for continuous operation. Monitoring, recordkeeping, and reporting are not required to demonstrate compliance with continuous hours of operation

B. Propylene oxide (PO) may be substituted for ethylene oxide (EO), but the combined maximum charges are limited to the charge rate(s) specified in Condition A108.C and the PO emission shall be routed through the same control equipment as the EO emissions.

C. Ethylene Oxide and Propylene Oxide Charging Rates

Requirement: The combined maximum ethylene oxide gas charge rate(s) to the sterilizer chambers (Units S-1 to S-14) shall not exceed the following limits: (a) 1,790 lbs per hour, hourly average and averaged over a 24-hour period, (b) 1,692,000 lbs per 12 month period, calculated as a monthly rolling 12-month total.
Monitoring: Hourly, the permittee shall monitor the following: (1) EO or PO charge rates for each of the sterilization chambers (Units S-1 to S-14).
Recordkeeping: Records shall include:

(1) Date; (2) EO or PO pounds per hour averaged over a 24 hour period; (3) EO or PO pounds per 12 month period, calculated as a monthly rolling 12-month total.
Reporting: The permittee shall report in accordance with Section B110.

A109 Facility: Reporting Schedules – Not Applicable

A110 Facility: Fuel Sulfur Requirements

A. Fuel and Fuel Sulfur Requirements (CD3 and Bx)

Requirement: All combustion emission units shall combust only natural gas containing no more than 5.0 grains of total sulfur per 100 dry standard cubic feet
Monitoring: None
Recordkeeping: The permittee shall demonstrate compliance with the natural gas or fuel oil limit on total sulfur content by maintaining records of a current, valid purchase contract, tariff sheet or transportation contract for the gaseous or liquid fuel, or fuel gas analysis, specifying the allowable limit or less.
Reporting: The permittee shall report in accordance with Section B110.

A111 Facility: 20.2.61 NMAC Opacity

A. 20.2.61 NMAC Opacity Limit (Units CD3 and Bx)

Requirement: Visible emissions from all stationary combustion emission stacks shall not equal or exceed an opacity of 20 percent.
Monitoring: Use of natural gas fuel constitutes compliance with 20.2.61 NMAC unless opacity equals or exceeds 20% averaged over a 10-minute period. When any visible emissions are observed at or above 20% opacity, during steady state operation, opacity shall be measured over a 10-minute period, in accordance with the procedures at 40 CFR 60, Appendix A, Method 9 as required by 20.2.61.114 NMAC
Recordkeeping: The permittee shall record the opacity measures with the corresponding opacity readings in accordance with Method 9 in 40 CFR 60, Appendix A.
Reporting: The permittee shall report in accordance with Section B110.

A112 Facility: Haul Roads – Not Applicable

A113 Facility: Initial Location Requirements – Not Applicable

A114 Facility: Relocation Requirements

A. This facility may not be relocated.

A115 Alternative Operating Scenario – Not required

A116 Compliance Plan – Not Required

A117 Reducing Facility Emissions

A. Within 60 days of permit issuance, the permittee shall come into compliance with the emissions limits in this permit NSR (0733M15R1) by permanently ducting the remaining back vents (BV 1-7, 11, 12, and 14) to the Donaldson catalytic oxidizer.

A200 Oil and Gas Industry – Not Required

A300 Construction Industry – Aggregate – Not Required

A400 Construction Industry – Asphalt – Not Required

A500 Construction Industry – Concrete

A600 Power Generation Industry – Not Required

A700 Solid Waste Disposal (Landfills) Industry– Not Required

STERILIZATION FACILITIES INTRODUCTION

A800 Sterilization Facilities Introduction

A. 40 CFR 63 Subpart O: Ethylene Oxide Emissions Standards for Sterilization Facilities

Requirement: This facility is subject to 40 CFR 63, Subparts A and O and shall comply with all applicable requirements of the regulation.
Monitoring: The permittee shall comply with all applicable monitoring requirements of 40

CFR 63, Subparts A and O.
Recordkeeping: The permittee shall comply with all applicable recordkeeping requirements of 40 CFR 63, Subparts A and O.
Reporting: The permittee shall comply with all applicable recordkeeping requirements of 40 CFR 63, Subparts A and O.

B. Oil Seals

Requirement: All pumps in contact with EO or PO shall have closed-loop oil seals. All oil seals shall be maintained to ensure integrity.
Monitoring: The permittee shall inspect the oil seals weekly to ensure proper operations.
Recordkeeping: The permittee shall keep records of the required monitoring and any maintenance performed for EO or PO pump oil seals.
Reporting: The permittee shall report in accordance with Section B110.

C. This Specific Condition (A800.C) supersedes General Condition B111.C.4.:

During emissions tests, pollutant, O_2 concentration and fuel flow rate ***(if fuels are being combusted)*** shall be monitored and recorded. This information shall be included with the test report furnished to the Department.

A801 Sterilization Chamber

A. Sterilization Chambers (S1- S14)

Requirement: The permittee shall not operate any sterilization chambers unless their respective emission control equipment (CD-1 or CD-2) is operated in accordance with manufacturer specifications.
Monitoring: To ensure that the control equipment is operating in accordance with manufacturer specifications, during each day that the sterilization chambers are in use, the permittee shall monitor: (1) The control equipment (CD-1 or CD-2) is operating within the specified parameters in Condition A801.B.
Recordkeeping: The permittee shall maintain records of all daily inspections and record all of the parameters specified in Condition A801.B.
Reporting: The permittee shall report in accordance with Section B110.

B. Acid-Water Scrubber (Unit CD-1 and CD-2)

Requirement: All emissions from Units S-1 – S-14 shall be ducted to the acid-water scrubber CD-1 or CD-2. The permittee shall not operate the units S1- S14 unless the units CD-1 or CD-2 are operating within the specified parameters in this condition. Unit CD-1 may be used as a back-up for Unit CD-2 only when Unit CD-1 has minimum emission reduction efficiency equal to or greater than Unit CD-2. Compliance with this condition demonstrates compliance with the emission limits in Table

106.A for Units CD-1 and CD-2.

Monitoring: Each day, the permittee shall monitor the following parameters for each acid-water scrubber operated in any one calendar day.

A) For CD-1, the permittee shall monitor:

(1) The gas flow rate shall not exceed 600 ACFM @ 90 degrees Fahrenheit;

(2) The liquid temperature shall not exceed 100 degrees Fahrenheit;

(3) The liquid pH shall be $\leq$1; and

(4) The permittee shall monitor the scrubber spray atomizers and ensure that they are operating.

B) For CD-2, the permittee shall monitor:

(1) The gas flow rate shall not exceed 2500 SCFM @ 90 degrees Fahrenheit;

(2) The liquid temperature shall not exceed 120 degrees Fahrenheit;

(3) The liquid pH shall be $\leq$2; and

(4) Daily, the permittee shall monitor the scrubber spray atomizers to ensure that they are operating.

The permittee shall monitor the date, start time, and end time of any downtime and/or maintenance of the units CD-1 and CD-2.

Recordkeeping: Daily, the permittee shall record:

For CD-1 and CD-2, the permittee shall record:

(1) The gas flow rate;

(2) The gas inlet temperature;

(3) The liquid temperature;

(4) The liquid pH; and

(5) The permittee shall record inspections of the scrubber spray atomizers and the results of the inspections.

The permittee shall record the date, start time, and end time of any downtime and/or maintenance of the units CD-1 and CD-2.

Reporting: The permittee shall report in accordance with Section B110.

C. Interlock Systems for Acid-Water Scrubber (Unit CD-1 and CD-2)

Requirement: Units CD-1 and CD-2 shall be equipped with an interlock system to prevent emission discharges to the atmosphere any time the scrubber system experiences a control parameter malfunction. Set points for the sterilization system interlock shall be specified by the control device (CD-1 or CD-2) manufacturer and compliance test results (as applicable) for the unit. Upon request by Department personnel during an onsite inspection, the permittee shall demonstrate to the inspector that the interlock systems are operating within the set points.
Monitoring: The permittee shall monitor: 1. Daily, the permittee shall monitor for the parameters in Condition A 801.B to demonstrate that the interlock system is operating within the set points as specified by the control device (CD-1 or CD-2). 2. The permittee shall monitor each time the Interlock System is used.
Recordkeeping: 1. Daily, the permittee shall record that the interlock system is operating within the set points as specified in Condition A801.B for the control device (CD-1 or CD-2). 2. The permittee shall record each time the Interlock System is used.
Reporting: The permittee shall report in accordance with Section B110.

D. Acid-Water Scrubber Shut down Alarm (Unit CD-1 and CD-2)

Requirement: The shutdown alarm on the acid-water scrubber shall be set to maintain at least a thirty (30) minute average residence time to ensure ethylene glycol formation during the scrubber operation.
Monitoring: The permittee shall monitor the alarm on the acid-water scrubber to ensure at least (30) minutes average residence time, each time the scrubber is operating.
Recordkeeping: The permittee shall record each time the average residence time fails to maintain at least 30 minutes average residence time.
Reporting: The permittee shall report in accordance with Section B110.

A802 Aerating Rooms, Backvents, and Catalytic Oxidizer

A. Operational and Control Requirements for Units AR-08, AR-09, and Units BV1-BV14)

Requirement: A.) All emissions from aeration rooms AR-08 and AR-09 shall be ducted to the catalytic oxidizer (Unit CD-3). Emissions from Units BV1- BV14 shall be vented to (Unit CD-3). B.) All untreated process emissions from the aeration rooms (AR-08 and AR-09) must be isolated and the chamber back vents (BV1- BV14) must not operate whenever the catalytic oxidizer (CD-3) is not within operating temperatures. C.) The permittee shall ensure that a continuous strip chart recorder or data acquisition system

for monitoring the catalytic bed temperature is continuously operated at all times the catalytic control system is in operation. E.) Compliance with this condition demonstrates compliance with the emission limits for Unit CD-3 in Table 106.A.
Monitoring: (1) The permittee shall continuously monitor the temperature at the outlet of the catalyst bed. (2) Monthly, the permittee shall monitor the pressure drop across the catalyst bed. (3) In the event of a malfunction of the continuous recorder, manual temperature recordings of the inlet temperature to the catalyst bed shall be taken hourly. The continuous temperature recorder shall be repaired within seven calendar days. (4) The permittee shall monitor the date, start time, and end time of any downtime and/or maintenance of the unit CD-3.
Recordkeeping: (1) The permittee shall keep a monthly record of the data from the continuous strip chart recorder or data acquisition system for monitoring the catalytic bed temperature. (2) Monthly, the permittee shall record the pressure drop across the catalyst bed. (3) The permittee shall record the date, start time, and end time of any downtime and/or maintenance of the unit CD-3.
Reporting: The permittee shall report in accordance with Section B110.

B. Interlock Systems for Catalytic Oxidizer (Unit CD-3)

Requirement: Unit CD-3 shall be equipped with an interlock system to prevent emission discharges to the atmosphere any time the catalytic system experiences a control parameter malfunction. Set points for the sterilization system interlock shall be specified by the control device, CD-3, manufacturer and compliance test results (as appropriate) for the unit. Upon request by Department personnel during an onsite inspection, the permittee shall demonstrate to the inspector that the interlock systems are operating within the set points.
Monitoring: (1) Daily, the permittee shall monitor (CD-3) operating temperature to ensure it is operating within the temperature set points as specified for the control device (CD-3) from the manufacturer specification sheet and compliance test results (as appropriate). (2) Monthly, the permittee shall monitor the pressure drop across the catalyst bed of (CD-3) and ensure that it meets the manufacturer's specification. (3) The permittee shall monitor each time the Interlock System is used.
Recordkeeping: (1) Daily, the permittee shall record that the interlock system is operating within the temperature set points as specified by the manufacturer specifications and compliance test

results (as appropriate) for the control device (CD-3). (2) Monthly, the permittee shall record the pressure drop across the catalyst bed of (CD-3). (3) The permittee shall record each time the Interlock System is used. (4) The permittee shall maintain a copy of the manufacturer specification sheet on the premises and provide it to the Department's inspector upon request.
Reporting: The permittee shall report in accordance with Section B110.

PART B GENERAL CONDITIONS

B100 Introduction

A. The Department has reviewed the permit application for the proposed construction/modification/revision and has determined that the provisions of the Act and ambient air quality standards will be met. Conditions have been imposed in this permit to assure continued compliance. 20.2.72.210.D NMAC, states that any term or condition imposed by the Department on a permit is enforceable to the same extent as a regulation of the Environmental Improvement Board.

B101 Legal

A. The contents of a permit application specifically identified by the Department shall become the terms and conditions of the permit or permit revision. Unless modified by conditions of this permit, the permittee shall construct or modify and operate the Facility in accordance with all representations of the application and supplemental submittals that the Department relied upon to determine compliance with applicable regulations and ambient air quality standards. If the Department relied on air quality modeling to issue this permit, any change in the parameters used for this modeling shall be submitted to the Department for review. Upon the Department's request, the permittee shall submit additional modeling for review by the Department. Results of that review may require a permit modification. (20.2.72.210.A NMAC)

B. Any future physical changes, changes in the method of operation or changes in restricted area may constitute a modification as defined by 20.2.72 NMAC, Construction Permits. Unless the source or activity is exempt under 20.2.72.202 NMAC, no modification shall begin prior to issuance of a permit. (20.2.72 NMAC Sections 200.A.2 and E, and 210.B.4)

C. Changes in plans, specifications, and other representations stated in the application documents shall not be made if they cause a change in the method of control of emissions or in the character of emissions, will increase the discharge of emissions or affect modeling results. Any such proposed changes shall be submitted as a revision or modification. (20.2.72 NMAC Sections 200.A.2 and E, and 210.B.4)

D. The permittee shall establish and maintain the property's Restricted Area as identified in plot plan submitted with the application. (20.2.72 NMAC Sections 200.A.2 and E, and 210.B.4)

E. Applications for permit revisions and modifications shall be submitted to:

Program Manager, Permits Section
New Mexico Environment Department
Air Quality Bureau
525 Camino de los Marquez, Suite 1
Santa Fe, NM 87505

F. The owner or operator of a source having an excess emission shall, to the extent practicable, operate the source, including associated air pollution control equipment, in a manner consistent with good air pollutant control practices for minimizing emissions. (20.2.7.109 NMAC). The establishment of allowable malfunction emission limits does not supersede this requirement.

B102 Authority

A. This permit is issued pursuant to the Air Quality Control Act (Act) and regulations adopted pursuant to the Act including Title 20, Chapter 2, Part 72 of the New Mexico Administrative Code (NMAC), (20.2.72 NMAC), Construction Permits and is enforceable pursuant to the Act and the air quality control regulations applicable to this source.

B. The Department is the Administrator for 40 CFR Parts 60, 61, and 63 pursuant to the delegation and exceptions of Section 10 of 20.2.77 NMAC (NSPS), 20.2.78 NMAC (NESHAP), and 20.2.82 NMAC (MACT).

B103 Annual Fee

A. The Department will assess an annual fee for this Facility. The regulation 20.2.75 NMAC set the fee amount at $1,500 through 2004 and requires it to be adjusted annually for the Consumer Price Index on January 1. The current fee amount is available by contacting the Department or can be found on the Department's website. The AQB will invoice the permittee for the annual fee amount at the beginning of each calendar year. This fee does not apply to sources which are assessed an annual fee in accordance with 20.2.71 NMAC. For sources that satisfy the definition of "small business" in 20.2.75.7.F NMAC, this annual fee will be divided by two. (20.2.75.11 NMAC)

B. All fees shall be remitted in the form of a corporate check, certified check, or money order made payable to the "NM Environment Department, AQB" mailed to the

address shown on the invoice and shall be accompanied by the remittance slip attached to the invoice.

B104 Appeal Procedures

A. Any person who participated in a permitting action before the Department and who is adversely affected by such permitting action, may file a petition for hearing before the Environmental Improvement Board. The petition shall be made in writing to the Environmental Improvement Board within thirty (30) days from the date notice is given of the Department's action and shall specify the portions of the permitting action to which the petitioner objects, certify that a copy of the petition has been mailed or hand-delivered and attach a copy of the permitting action for which review is sought. Unless a timely request for hearing is made, the decision of the Department shall be final. The petition shall be copied simultaneously to the Department upon receipt of the appeal notice. If the petitioner is not the applicant or permittee, the petitioner shall mail or hand-deliver a copy of the petition to the applicant or permittee. The Department shall certify the administrative record to the board. Petitions for a hearing shall be sent to: (20.2.72.207.F NMAC)

Secretary, New Mexico Environmental Improvement Board
1190 St. Francis Drive, Runnels Bldg. Rm. N2153
Santa Fe, New Mexico 87502

B105 Submittal of Reports and Certifications

A. Stack Test Protocols and Stack Test Reports shall be submitted electronically to Stacktest.AQB@state.nm.us or as directed by the Department.

B. Excess Emission Reports shall be submitted as directed by the Department. (20.2.7.110 NMAC)

C. Routine reports shall be submitted to the mailing address below, or as directed by the Department:

Manager, Compliance and Enforcement Section
New Mexico Environment Department
Air Quality Bureau
525 Camino de los Marquez, Suite 1
Santa Fe, NM 87505

B106 NSPS and/or MACT Startup, Shutdown, and Malfunction Operations

A. If a facility is subject to a NSPS standard in 40 CFR 60, each owner or operator that installs and operates a continuous monitoring device required by a NSPS regulation

shall comply with the excess emissions reporting requirements in accordance with 40 CFR 60.7(c), unless specifically exempted in the applicable subpart.

B. If a facility is subject to a NSPS standard in 40 CFR 60, then in accordance with 40 CFR 60.8(c), emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction shall not be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard.

C. If a facility is subject to a MACT standard in 40 CFR 63, then the facility is subject to the requirement for a Startup, Shutdown and Malfunction Plan (SSM) under 40 CFR 63.6(e)(3), unless specifically exempted in the applicable subpart.

B107 Startup, Shutdown, and Maintenance Operations

A. The establishment of permitted startup, shutdown, and maintenance (SSM) emission limits does not supersede the requirements of 20.2.7.14.A NMAC. Except for operations or equipment subject to Condition B106, the permittee shall establish and implement a plan to minimize emissions during routine or predictable start up, shut down, and scheduled maintenance (SSM work practice plan) and shall operate in accordance with the procedures set forth in the plan. (SSM work practice plan) (20.2.7.14.A NMAC)

B108 General Monitoring Requirements

A. These requirements do not supersede or relax requirements of federal regulations.

B. The following monitoring requirements shall be used to determine compliance with applicable requirements and emission limits. Any sampling, whether by portable analyzer or EPA reference method, that measures an emission rate over the applicable averaging period greater than an emission limit in this permit constitutes noncompliance with this permit. The Department may require, at its discretion, additional tests pursuant to EPA Reference Methods at any time, including when sampling by portable analyzer measures an emission rate greater than an emission limit in this permit; but such requirement shall not be construed as a determination that the sampling by portable analyzer does not establish noncompliance with this permit and shall not stay enforcement of such noncompliance based on the sampling by portable analyzer.

C. If the emission unit is shutdown at the time when periodic monitoring is due to be accomplished, the permittee is not required to restart the unit for the sole purpose of performing the monitoring. Using electronic or written mail, the permittee shall notify the Department's Compliance and Enforcement Section of a delay in emission tests prior to the deadline for accomplishing the tests. Upon recommencing operation, the permittee shall submit any pertinent pre-test notification requirements set forth in the

current version of the Department's Standard Operating Procedures For Use Of Portable Analyzers in Performance Test, and shall accomplish the monitoring.

D. The requirement for monitoring during any monitoring period is based on the percentage of time that the unit has operated. However, to invoke the monitoring period exemption at B108.D(2), hours of operation shall be monitored and recorded.

(1) If the emission unit has operated for more than 25% of a monitoring period, then the permittee shall conduct monitoring during that period.

(2) If the emission unit has operated for 25% or less of a monitoring period then the monitoring is not required. After two successive periods without monitoring, the permittee shall conduct monitoring during the next period regardless of the time operated during that period, except that for any monitoring period in which a unit has operated for less than 10% of the monitoring period, the period will not be considered as one of the two successive periods.

(3) If invoking the monitoring **period** exemption in B108.D(2), the actual operating time of a unit shall not exceed the monitoring period required by this permit before the required monitoring is performed. For example, if the monitoring period is annual, the operating hours of the unit shall not exceed 8760 hours before monitoring is conducted. Regardless of the time that a unit actually operates, a minimum of one of each type of monitoring activity shall be conducted during any five-year period.

E. For all periodic monitoring events, except when a federal or state regulation is more stringent, three test runs shall be conducted at 90% or greater of the unit's capacity as stated in this permit, or in the permit application if not in the permit, and at additional loads when requested by the Department. If the 90% capacity cannot be achieved, the monitoring will be conducted at the maximum achievable load under prevailing operating conditions except when a federal or state regulation requires more restrictive test conditions. The load and the parameters used to calculate it shall be recorded to document operating conditions and shall be included with the monitoring report.

F. When requested by the Department, the permittee shall provide schedules of testing and monitoring activities. Compliance tests from previous NSR and Title V permits may be re-imposed if it is deemed necessary by the Department to determine whether the source is in compliance with applicable regulations or permit conditions.

G. If monitoring is new or is in addition to monitoring imposed by an existing applicable requirement, it shall become effective 120 days after the date of permit issuance. For emission units that have not commenced operation, the associated new or additional monitoring shall not apply until 120 days after the units commence operation. All pre-existing monitoring requirements incorporated in this permit shall continue to apply from the date of permit issuance.

B109 General Recordkeeping Requirements

A. The permittee shall maintain records to assure and verify compliance with the terms and conditions of this permit and any other applicable requirements that become effective after permit issuance. The minimum information to be included in these records is:

(1) equipment identification (include make, model and serial number for all tested equipment and emission controls);

(2) date(s) and time(s) of sampling or measurements;

(3) date(s) analyses were performed;

(4) the qualified entity that performed the analyses;

(5) analytical or test methods used;

(6) results of analyses or tests; and

(7) operating conditions existing at the time of sampling or measurement.

B. Except as provided in the Specific Conditions, records shall be maintained on-site or at the permittee's local business office for a minimum of two (2) years from the time of recording and shall be made available to Department personnel upon request. Sources subject to 20.2.70 NMAC "Operating Permits" shall maintain records on-site for a minimum of five (5) years from the time of recording.

C. Unless otherwise indicated by Specific Conditions, the permittee shall keep the following records for malfunction emissions and routine or predictable emissions during startup, shutdown, and scheduled maintenance (SSM):

(1) The owner or operator of a source subject to a permit shall establish and implement a plan to minimize emissions during routine or predictable startup, shutdown, and scheduled maintenance through work practice standards and good air pollution control practices. This requirement shall not apply to any affected facility defined in and subject to an emissions standard and an equivalent plan under 40 CFR Part 60 (NSPS), 40 CFR Part 63 (MACT), or an equivalent plan under 20.2.72 NMAC - Construction Permits, 20.2.70 NMAC - Operating Permits, 20.2.74 NMAC - Permits - Prevention of Significant Deterioration (PSD), or 20.2.79 NMAC - Permits - Nonattainment Areas. The permittee shall keep records of all sources subject to the plan to minimize emissions during routine or predictable SSM and shall record if the source is subject to an alternative plan and therefore, not subject to the plan requirements under 20.2.7.14.A NMAC.

(2) If the facility has allowable SSM emission limits in this permit, the permittee shall record all SSM events, including the date, the start time, the end time, a description of the event, and a description of the cause of the event. This record also shall include a copy of the manufacturer's, or equivalent, documentation showing that

any maintenance qualified as scheduled. Scheduled maintenance is an activity that occurs at an established frequency pursuant to a written protocol published by the manufacturer or other reliable source. The authorization of allowable SSM emissions does not supersede any applicable federal or state standard. The most stringent requirement applies.

(3) If the facility has allowable malfunction emission limits in this permit, the permittee shall record all malfunction events to be applied against these limits. The permittee shall also include the date, the start time, the end time, and a description of the event. **Malfunction means** any sudden and unavoidable failure of air pollution control equipment or process equipment beyond the control of the owner or operator, including malfunction during startup or shutdown. A failure that is caused entirely or in part by poor maintenance, careless operation, or any other preventable equipment breakdown shall not be considered a malfunction. (20.2.7.7.E NMAC) The authorization of allowable malfunction emissions does not supersede any applicable federal or state standard. The most stringent requirement applies. This authorization only allows the permittee to avoid submitting reports under 20.2.7 NMAC for total annual emissions that are below the authorized malfunction emission limit.

(4) The owner or operator of a source shall meet the operational plan defining the measures to be taken to mitigate source emissions during malfunction, startup or shutdown. (20.2.72.203.A(5) NMAC)

B110 General Reporting Requirements
(20.2.72 NMAC Sections 210 and 212)

A. Records and reports shall be maintained on-site or at the permittee's local business office unless specifically required to be submitted to the Department or EPA by another condition of this permit or by a state or federal regulation. Records for unmanned sites may be kept at the nearest business office.

B. The permittee shall notify the Department's Compliance Reporting Section using the current Submittal Form posted to NMED's Air Quality web site under Compliance and Enforcement/Submittal Forms in writing of, or provide the Department with (20.2.72.212.A and B):

(1) the anticipated date of initial startup of each new or modified source not less than thirty (30) days prior to the date. Notification may occur prior to issuance of the permit, but actual startup shall not occur earlier than the permit issuance date;

(2) after receiving authority to construct, the equipment serial number as provided by the manufacturer or permanently affixed if shop-built and the actual date of initial startup of each new or modified source within fifteen (15) days after the startup date; and

(3) the date when each new or modified emission source reaches the maximum production rate at which it will operate within fifteen (15) days after that date.

C. The permittee shall notify the Department's Permitting Program Manager, in writing of, or provide the Department with (20.2.72.212.C and D):

(1) any change of operators or any equipment substitutions within fifteen (15) days of such change;

(2) any necessary update or correction no more than sixty (60) days after the operator knows or should have known of the condition necessitating the update or correction of the permit.

D. Results of emission tests and monitoring for each pollutant (except opacity) shall be reported in pounds per hour (unless otherwise specified) and tons per year. Opacity shall be reported in percent. The number of significant figures corresponding to the full accuracy inherent in the testing instrument or Method test used to obtain the data shall be used to calculate and report test results in accordance with 20.2.1.116.B and C NMAC. Upon request by the Department, CEMS and other tabular data shall be submitted in editable, MS Excel format.

E. The permittee shall submit reports of excess emissions in accordance with 20.2.7.110.A NMAC.

B111 General Testing Requirements

A. Compliance Tests

(1) Compliance test requirements from previous permits (if any) are still in effect, unless the tests have been satisfactorily completed. Compliance tests may be re-imposed if it is deemed necessary by the Department to determine whether the source is in compliance with applicable regulations or permit conditions. (20.2.72 NMAC Sections 210.C and 213)

(2) Compliance tests shall be conducted within sixty (60) days after the unit(s) achieve the maximum normal production rate. If the maximum normal production rate does not occur within one hundred twenty (120) days of source startup, then the tests must be conducted no later than one hundred eighty (180) days after initial startup of the source.

(3) Unless otherwise indicated by Specific Conditions or regulatory requirements, the default time period for each test run shall be **at least** 60 minutes and each performance test shall consist of three separate runs using the applicable test method. For the purpose of determining compliance with an applicable emission limit, the arithmetic mean of results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of

the sample train, extreme meteorological conditions, or other circumstances, beyond the owner or operator's control, compliance may, upon the Department approval, be determined using the arithmetic mean of the results of the two other runs.

(4) Testing of emissions shall be conducted with the emissions unit operating at 90 to 100 percent of the maximum operating rate allowed by the permit. If it is not possible to test at that rate, the source may test at a lower operating rate, subject to the approval of the Department.

(5) Testing performed at less than 90 percent of permitted capacity will limit emission unit operation to 110 percent of the tested capacity until a new test is conducted.

(6) If conditions change such that unit operation above 110 percent of tested capacity is possible, the source must submit a protocol to the Department within 30 days of such change to conduct a new emissions test.

B. EPA Reference Method Tests

(1) All compliance tests required by this permit, unless otherwise specified by Specific Conditions of this permit, shall be conducted in accordance with the requirements of CFR Title 40, Part 60, Subpart A, General Provisions, and the following EPA Reference Methods as specified by CFR Title 40, Part 60, Appendix A:

(a) Methods 1 through 4 for stack gas flowrate

(b) Method 5 for TSP

(c) Method 6C and 19 for SO_2

(d) Method 7E for NO_X (test results shall be expressed as nitrogen dioxide (NO_2) using a molecular weight of 46 lb/lb-mol in all calculations (each ppm of NO/NO_2 is equivalent to 1.194 x 10-7 lb/SCF)

(e) Method 9 for opacity

(f) Method 10 for CO

(g) Method 19 may be used in lieu of Methods 1-4 for stack gas flowrate upon approval of the Department. A justification for this proposal must be provided along with a contemporaneous fuel gas analysis (preferably on the day of the test) and a recent fuel flow meter calibration certificate (within the most recent quarter).

(h) Method 7E or 20 for Turbines per 60.335 or 60.4400

(i) Method 29 for Metals

(j) Method 201A for filterable PM_{10} and $PM_{2.5}$

(k) Method 202 for condensable PM

(l) Method 320 for organic Hazardous Air Pollutants (HAPs)

(m) Method 25A for VOC reduction efficiency

(n) Method 30B for Mercury

(2) Alternative test method(s) may be used if the Department approves the change

C. Periodic Monitoring and Portable Analyzer Requirements

(1) Periodic emissions tests (periodic monitoring) may be conducted in accordance with EPA Reference Methods or by utilizing a portable analyzer. Periodic monitoring utilizing a portable analyzer shall be conducted in accordance with the requirements of ASTM D 6522-00. However, if a facility has met a previously approved Department criterion for portable analyzers, the analyzer may be operated in accordance with that criterion until it is replaced.

(2) Unless otherwise indicated by Specific Conditions or regulatory requirements, the default time period for each test run shall be **at least** 20 minutes.

Each performance test shall consist of three separate runs. The arithmetic mean of results of the three runs shall be used to determine compliance with the applicable emission limit.

(3) Testing of emissions shall be conducted in accordance with the requirements at Section B108.E.

(4) During emissions tests, pollutant, O_2 concentration and fuel flow rate shall be monitored and recorded. This information shall be included with the test report furnished to the Department.

(5) Pollutant emission rate shall be calculated in accordance with 40 CFR 60, Appendix A, Method 19 utilizing fuel flow rate (scf) and fuel heating value (Btu/scf) obtained during the test.

D. Test Procedures:

(1) The permittee shall notify the Department's Program Manager, Compliance and Enforcement Section at least thirty (30) days before the test date and allow a representative of the Department to be present at the test.

(2) Equipment shall be tested in the "as found" condition. Equipment may not be adjusted or tuned prior to any test for the purpose of lowering emissions, and then returned to previous settings or operating conditions after the test is complete.

(3) Contents of test notifications, protocols and test reports shall conform to the format specified by the Department's Universal Test Notification, Protocol and Report Form and Instructions. Current forms and instructions are posted to NMED's Air Quality web site under Compliance and Enforcement Testing.

(4) The permittee shall provide (a) sampling ports adequate for the test methods applicable to the facility, (b) safe sampling platforms, (c) safe access to sampling platforms and (d) utilities for sampling and testing equipment.

(5) The stack shall be of sufficient height and diameter and the sample ports shall be located so that a representative test of the emissions can be performed in accordance with the requirements of EPA Method 1 or ASTM D 6522-00 as applicable.

(6) Where necessary to prevent cyclonic flow in the stack, flow straighteners shall be installed

(7) Unless otherwise indicated by Specific Conditions or regulatory requirements, test reports shall be submitted to the Department no later than 30 days after completion of the test.

B112 Compliance

A. The Department shall be given the right to enter the facility at all reasonable times to verify the terms and conditions of this permit. Required records shall be organized by date and subject matter and shall at all times be readily available for inspection. The permittee, upon verbal or written request from an authorized representative of the Department who appears at the facility, shall immediately produce for inspection or copying any records required to be maintained at the facility. Upon written request at other times, the permittee shall deliver to the Department paper or electronic copies of any and all required records maintained on site or at an off-site location. Requested records shall be copied and delivered at the permittee's expense within three business days from receipt of request unless the Department allows additional time. Required records may include records required by permit and other information necessary to demonstrate compliance with terms and conditions of this permit. (NMSA 1978, Section 74-2-13)

B. A copy of the most recent permit(s) issued by the Department shall be kept at the permitted facility or (for unmanned sites) at the nearest company office and shall be made available to Department personnel for inspection upon request. (20.2.72.210.B.4 NMAC)

C. Emissions limits associated with the energy input of a Unit, i.e. lb/MMBtu, shall apply at all times unless stated otherwise in a Specific Condition of this permit. The averaging time for each emissions limit, including those based on energy input of a Unit (i.e. lb/MMBtu) is one (1) hour unless stated otherwise in a Specific Condition of this permit or in the applicable requirement that establishes the limit.

B113 Permit Cancellation and Revocation

A. The Department may revoke this permit if the applicant or permittee has knowingly and willfully misrepresented a material fact in the application for the permit. Revocation will be made in writing, and an administrative appeal may be taken to the Secretary of the Department within thirty (30) days. Appeals will be handled in

accordance with the Department's Rules Governing Appeals From Compliance Orders.

B. The Department shall automatically cancel any permit for any source which ceases operation for five (5) years or more, or permanently. Reactivation of any source after the five (5) year period shall require a new permit. (20.2.72 NMAC)

C. The Department may cancel a permit if the construction or modification is not commenced within two (2) years from the date of issuance or if, during the construction or modification, work is suspended for a total of one (1) year. (20.2.72 NMAC)

B114 Notification to Subsequent Owners

A. The permit and conditions apply in the event of any change in control or ownership of the Facility. No permit modification is required in such case. However, in the event of any such change in control or ownership, the permittee shall notify the succeeding owner of the permit and conditions and shall notify the Department's Program Manager, Permits Section of the change in ownership within fifteen (15) days of that change. (20.2.72.212.C NMAC)

B. Any new owner or operator shall notify the Department's Program Manager, Permits Section, within thirty (30) days of assuming ownership, of the new owner's or operator's name and address. (20.2.73.200.E.3 NMAC)

B115 Asbestos Demolition

A. Before any asbestos demolition or renovation work, the permittee shall determine whether 40 CFR 61 Subpart M, National Emissions Standards for Asbestos applies. If required, the permittee shall notify the Department's Program Manager, Compliance and Enforcement Section using forms furnished by the Department.

B116 Short Term Engine Replacement

A. The following Alternative Operating Scenario (AOS) addresses engine breakdown or periodic maintenance and repair, which requires the use of a short term replacement engine. The following requirements do not apply to engines that are exempt per 20.2.72.202.B(3) NMAC. Changes to exempt engines must be reported in accordance with 20.2.72.202.B NMAC. A short term replacement engine may be substituted for any engine allowed by this permit for no more than 120 days in any rolling twelve month period per permitted engine. The compliance demonstrations required as part of this AOS are in addition to any other compliance demonstrations required by this permit.

(1) The permittee may temporarily replace an existing engine that is subject to the emission limits set forth in this permit with another engine regardless of manufacturer, model, and horsepower without modifying this permit. The permittee shall submit written notification to the Department within 15 days of the date of engine substitution according to condition B110.C(1).

(a) The potential emission rates of the replacement engine shall be determined using the replacement engine's manufacturer specifications and shall comply with the existing engine's permitted emission limits.

(b) The direction of the exhaust stack for the replacement engine shall be either vertical or the same direction as for the existing engine. The replacement engine's stack height and flow parameters shall be at least as effective in the dispersion of air pollutants as the modeled stack height and flow parameters for the existing permitted engine. The following equation may be used to show that the replacement engine disperses pollutants as well as the existing engine. The value calculated for the replacement engine on the right side of the equation shall be equal to or greater than the value for the existing engine on the left side of the equation. The permitting page of the Air Quality Bureau website contains a spreadsheet that performs this calculation.

EXISTING ENGINE REPLACMENT ENGINE

$$\frac{[(g) \times (h1)] + [(v1)^2/2] + [(c) \times (T1)]}{q1} <= \frac{[(g) \times (h2)] + [(v2)^2/2] + [(c) \times (T2)]}{q2}$$

Where
g = gravitational constant = 32.2 ft/sec^2
h1 = existing stack height, feet
v1 = exhaust velocity, existing engine, feet per second
c = specific heat of exhaust, 0.28 BTU/lb-degree F
T1 = absolute temperature of exhaust, existing engine = degree F + 460
q1 = permitted allowable emission rate, existing engine, lbs/hour
h2 = replacement stack height, feet
v2 = exhaust velocity, replacement engine, feet per second
T2 = absolute temperature of exhaust, replacement engine = degree F + 460
q2 = manufacturer's potential emission rate, replacement engine, lbs/hour

The permittee shall keep records showing that the replacement engine is at least as effective in the dispersion of air pollutants as the existing engine.

(c) Test measurement of NOx and CO emissions from the temporary replacement engine shall be performed in accordance with Section B111

with the exception of Condition B111A(2) and B111B for EPA Reference Methods Tests or Section B111C for portable analyzer test measurements. Compliance test(s) shall be conducted within fifteen (15) days after the unit begins operation, and records of the results shall be kept according to section B109.B. This test shall be performed even if the engine is removed prior to 15 days on site.

i. These compliance tests are not required for an engine certified under 40CFR60, subparts IIII, or JJJJ, or 40CFR63, subpart ZZZZ if the permittee demonstrates that one of these requirements causes such engine to comply with all emission limits of this permit. The permittee shall submit this demonstration to the Department within 48 hours of placing the new unit into operation. This submittal shall include documentation that the engine is certified, that the engine is within its useful life, as defined and specified in the applicable requirement, and shall include calculations showing that the applicable emissions standards result in compliance with the permit limits.

ii. These compliance tests are not required if a test was conducted by portable analyzer or by EPA Method test (including any required by 40CFR60, subparts IIII and JJJJ and 40CFR63, subpart ZZZZ) within the last 12 months. These previous tests are valid only if conducted at the same or lower elevation as the existing engine location prior to commencing operation as a temporary replacement. A copy of the test results shall be kept according to section B109.B.

(d) Compliance tests for NOx and CO shall be conducted if requested by the Department in writing to determine whether the replacement engine is in compliance with applicable regulations or permit conditions.

(e) Upon determining that emissions data developed according to B116.A.1(c) fail to indicate compliance with either the NOx or CO emission limits, the permittee shall notify the Department within 48 hours. Also within that time, the permittee shall implement one of the following corrective actions:

i. The engine shall be adjusted to reduce NOx and CO emissions and tested per B116.A.1(c) to demonstrate compliance with permit limits.

ii. The engine shall discontinue operation or be replaced with a different unit.

(2) Short term replacement engines, whether of the same manufacturer, model, and horsepower, or of a different manufacturer, model, or horsepower, are subject to all federal and state applicable requirements, regardless of whether they are set forth

in this permit (including monitoring and recordkeeping), and shall be subject to any shield afforded by this permit.

(3) The permittee shall maintain a contemporaneous record documenting the unit number, manufacturer, model number, horsepower, emission factors, emission test results, and serial number of any existing engine that is replaced, and the replacement engine. Additionally, the record shall document the replacement duration in days, and the beginning and end dates of the short term engine replacement.

(4) The permittee shall maintain records of a regulatory applicability determination for each replacement engine (including 40CFR60, subparts IIII and JJJJ and 40CFR63, subpart ZZZZ) and shall comply with all associated regulatory requirements.

B. Additional requirements for replacement of engines at sources that are major as defined in regulation 20.2.74 NMAC, Permits – Prevention of Significant Deterioration, section 7.AG. For sources that are major under PSD, the total cumulative operating hours of the replacement engine shall be limited using the following procedure:

(1) Daily, the actual emissions from the replacement engine(s) of each pollutant regulated by this permit for the existing engine shall be calculated and recorded.

(2) The sum of the total actual emissions since the commencement of operation of the replacement engine(s) shall not equal or exceed the significant emission rates in Table 2 of 20.2.74 NMAC, section 502 for the time that the replacement engine is located at the facility.

C. All records required by this section shall be kept according to section B109.

PART C MISCELLANEOUS

C100 Supporting On-Line Documents

A. Copies of the following documents can be downloaded from NMED's web site under Compliance and Enforcement or requested from the Bureau.

(1) Excess Emission Form (for reporting deviations and emergencies)

(2) Universal Stack Test Notification, Protocol and Report Form and Instructions

(3) SOP for Use of Portable Analyzers in Performance Tests

C101 Definitions

A. **"Daylight"** is defined as the time period between sunrise and sunset, as defined by the Astronomical Applications Department of the U.S. Naval Observatory. (Data for one day or a table of sunrise/sunset for an entire year can be obtained at http://aa.usno.navy.mil/. Alternatively, these times can be obtained from a Farmer's Almanac or from http://www.almanac.com/rise/).

B. **"Exempt Sources"** and **"Exempt Activities"** is defined as those sources or activities that are exempted in accordance with 20.2.72.202 NMAC. Note; exemptions are only valid for most 20.2.72 NMAC permitting actions.

C. **"Fugitive Emission"** means those emissions which could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening.

D. **"Insignificant Activities"** means those activities which have been listed by the department and approved by the administrator as insignificant on the basis of size, emissions or production rate. Note; insignificant activities are only valid for 20.2.70 NMAC permitting actions.

E. **"Malfunction"** for the requirements under 20.2.7 NMAC, means any sudden and unavoidable failure of air pollution control equipment or process equipment beyond the control of the owner or operator, including malfunction during startup or shutdown. A failure that is caused entirely or in part by poor maintenance, careless operation, or any other preventable equipment breakdown shall not be considered a malfunction. (20.2.7.7.E NMAC)

F. **"Natural Gas"** is defined as a naturally occurring fluid mixture of hydrocarbons that contains 20.0 grains or less of total sulfur per 100 standard cubic feet (SCF) and is either composed of at least 70% methane by volume or has a gross calorific value of between 950 and 1100 Btu per standard cubic foot. (40 CFR 60.631)

G. **"Natural Gas Liquids"** means the hydrocarbons, such as ethane, propane, butane, and pentane, that are extracted from field gas. (40 CFR 60.631)

H. **"National Ambient air Quality Standards"** means, unless otherwise modified, the primary (health-related) and secondary (welfare-based) federal ambient air quality standards promulgated by the US EPA pursuant to Section 109 of the Federal Act.

I. **"Night"** is the time period between sunset and sunrise, as defined by the Astronomical Applications Department of the U.S. Naval Observatory. (Data for one day or a table of sunrise/sunset for an entire year can be obtained at http://aa.usno.navy.mil/. Alternatively, these times can be obtained from a Farmer's Almanac or from http://www.almanac.com/rise/).

J. **"Night Operation** or **Operation at Night"** is operating a source of emissions at night.

K. **"NO2"** or "Nitrogen dioxide" means the chemical compound containing one atom of nitrogen and two atoms of oxygen, for the purposes of ambient determinations. The term **"nitrogen dioxide,"** for the purposes of stack emissions monitoring, shall include nitrogen dioxide (the chemical compound containing one atom of nitrogen and two atoms of oxygen), nitric oxide (the chemical compound containing one atom of nitrogen and one atom of oxygen), and other oxides of nitrogen which may test as nitrogen dioxide and is sometimes referred to as NOx or NO_2. (20.2.2 NMAC)

L. "**NOx**" see NO_2

M. "**Paved Road**" is a road with a permanent solid surface that can be swept essentially free of dust or other material to reduce air re-entrainment of particulate matter. To the extent these surfaces remain solid and contiguous they qualify as paved roads: concrete, asphalt, chip seal, recycled asphalt and other surfaces approved by the Department in writing.

N. **"Potential Emission Rate"** means the emission rate of a source at its maximum capacity to emit a regulated air contaminant under its physical and operational design, provided any physical or operational limitation on the capacity of the source to emit a regulated air contaminant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its physical and operational design only if the limitation or the effect it would have on emissions is enforceable by the department pursuant to the Air Quality Control Act or the federal Act.

O. "**Restricted Area**" is an area to which public entry is effectively precluded. Effective barriers include continuous fencing, continuous walls, or other continuous barriers approved by the Department, such as rugged physical terrain with a steep grade that would require special equipment to traverse. If a large property is completely enclosed by fencing, a restricted area within the property may be identified with signage only. Public roads cannot be part of a Restricted Area.

P. **"Shutdown"** for requirements under 20.2.72 NMAC, means the cessation of operation of any air pollution control equipment, process equipment or process for any purpose, except routine phasing out of batch process units.

Q. **"SSM"** for requirements under 20.2.7 NMAC, means routine or predictable startup, shutdown, or scheduled maintenance.

(1) **"Shutdown"** for requirements under 20.2.7 NMAC, means the cessation of operation of any air pollution control equipment or process equipment.

(2) **"Startup"** for requirements under 20.2.7 NMAC, means the setting into operation of any air pollution control equipment or process equipment.

R. **"Startup"** for requirements under 20.2.72 NMAC, means the setting into operation of any air pollution control equipment, process equipment or process for any purpose, except routine phasing in of batch process units.

C102 Acronyms

2SLB ..... 2-stroke lean burn
4SLB ..... 4-stroke lean burn
4SRB ..... 4-stroke rich burn
acfm ..... actual cubic feet per minute
AFR ..... air fuel ratio
AP-42 ..... EPA Air Pollutant Emission Factors
AQB ..... Air Quality Bureau
AQCR ..... Air Quality Control Region
ASTM ..... American Society for Testing and Materials
Btu ..... British thermal unit
CAA ..... Clean Air Act of 1970 and 1990 Amendments
CEM ..... continuous emissions monitoring
cfh ..... cubic feet per hour
cfm ..... cubic feet per minute
CFR ..... Code of Federal Regulation
CI ..... compression ignition
CO ..... carbon monoxides
COMS ..... continuous opacity monitoring system
EIB ..... Environmental Improvement Board
EPA ..... United States Environmental Protection Agency
gr/100 cf ..... grains per one hundred cubic feet
gr/dscf ..... grains per dry standard cubic foot
GRI ..... Gas Research Institute
HAP ..... hazardous air pollutant
hp ..... horsepower
H_2S ..... hydrogen sulfide
IC ..... internal combustion
KW/hr ..... kilowatts per hour
lb/hr ..... pounds per hour
lb/MMBtu ..... pounds per million British thermal unit
MACT ..... Maximum Achievable Control Technology
MMcf/hr ..... million cubic feet per hour
MMscf ..... million standard cubic feet
N/A ..... not applicable

NAAQS.....National Ambient Air Quality Standards
NESHAP .....National Emission Standards for Hazardous Air Pollutants
NG .....natural gas
NGL .....natural gas liquids
NMAAQS .....New Mexico Ambient Air Quality Standards
NMAC.....New Mexico Administrative Code
NMED.....New Mexico Environment Department
NMSA .....New Mexico Statues Annotated
NOx.....nitrogen oxides
NSCR .....non-selective catalytic reduction
NSPS.....New Source Performance Standard
NSR.....New Source Review
PEM .....parametric emissions monitoring
PM..... particulate matter (equivalent to TSP, total suspended particulate)
PM_{10}.....particulate matter 10 microns and less in diameter
$PM_{2.5}$ .....particulate matter 2.5 microns and less in diameter
pph.....pounds per hour
ppmv .....parts per million by volume
PSD .....Prevention of Significant Deterioration
RATA.....Relative Accuracy Test Assessment
RICE .....reciprocating internal combustion engine
rpm .....revolutions per minute
scfm.....standard cubic feet per minute
SI .....spark ignition
SO_2 .....sulfur dioxide
SSM.....Startup Shutdown Maintenance (see SSM definition)
TAP.....Toxic Air Pollutant
TBD.....to be determined
THC.....total hydrocarbons
TSP.....Total Suspended Particulates
tpy .....tons per year
ULSD .....ultra low sulfur diesel
USEPA.....United States Environmental Protection Agency
UTM.....Universal Transverse Mercator Coordinate system
UTMH.....Universal Transverse Mercator Horizontal
UTMV.....Universal Transverse Mercator Vertical
VHAP.....volatile hazardous air pollutant
VOC .....volatile organic compounds

New Mexico
ENVIRONMENT DEPARTMENT

525 Camino de los Marquez, Suite 1
Santa Fe, NM 87505
Phone (505) 476-4300
Fax (505) 476-4375
www.nmenv.state.nm.us

SUSANA MARTINEZ
GOVERNOR

JOHN A. SANCHEZ
LIEUTENANT GOVERNOR

RYAN FLYNN
CABINET SECRETARY

BUTCH TONGATE
DEPUTY SECRETARY

AIR QUALITY BUREAU
NEW SOURCE REVIEW PERMIT
Issued under 20.2.72 NMAC

Certified Mail No: 7005 1820 0001 5773 4411
Return Receipt Requested

NSR Permit No:	0733-M15-R1
Facility Name:	Sterigenics-Santa Teresa, NM
Permittee Name:	Sterigenics US., LLC
Mailing Address:	2015 Spring Road, Suite 650 Oak Brook, IL 60523
TEMPO/IDEA ID No:	127-PRN20140001
AIRS No:	35-013-0007
Permitting Action:	Technical Permit Revision
Source Classification:	HAP and VOC Synthetic Minor
Facility Location:	31°51'38" N and 106°41'17" W
County:	Dona Ana
Air Quality Bureau Contact	Rhonda Trujillo
Main AQB Phone No.	(505) 476-4300

Richard L. Goodyear, PE
Bureau Chief
Air Quality Bureau

DEC 23 2014
Date

Template version: 10/30/14

TABLE OF CONTENTS

PART A FACILITY SPECIFIC REQUIREMENTS

A100 Introduction

A. This permit, NSR 0733-M15-R1, supersedes all portions of Air Quality Permit 0733-M15, issued June 13, 2013, except the portion requiring compliance tests. Compliance test conditions from previous permits, if not completed, are still in effect, in addition to compliance test requirements contained in this permit.

B. Fee Requirement: This permit is not effective until the Department receives the permit fee specified in the attached invoice. Pursuant to 20.2.75.12 NMAC, the permittee shall pay this invoice no later than thirty (30) days after the permit issue date (invoicing), unless the Department has granted an extension. The permit fee must be paid by this date regardless of the permittee's intended use or non-use of the permit or of the Department's cancellation of the permit. The permittee's failure to pay this fee when due will automatically void the permit and the Department may initiate enforcement action to collect the fee and assess a civil penalty for non-payment. The permittee shall not construct the new equipment in Table 104 before the date that the Department receives the permit fee in full. The Department may initiate enforcement action for injunctive relief and civil penalties for any construction or operation specified in this technical revision, 0733M15R1, if the permit fee is not paid by the due date.

A101 Permit Duration (expiration)

A. The term of this permit is permanent unless withdrawn or cancelled by the Department.

A102 Facility: Description

A. The function of the facility is to sterilize medical devices and food products by exposure to ethylene oxide and propylene oxide gases.

B. This facility is located approximately 2 miles northwest of Santa Teresa, New Mexico in Dona Ana County.

C. This modification consists of:

(1) Installation of a new 30-pallet sterilization chamber (Chamber 14), including associated process emissions from a new vacuum pump and chamber back vent. The vacuum pump is rated at 550 cfm and will exhaust process emissions from the new chamber directly to the facility's existing Ceilcote scrubber system. The Ceilcote system control efficiency for the new vacuum pump will be $\geq$ 99.3%. The chamber backvent consists of residual Ethylene Oxide (EO) or Propylene Oxide (PO) process emissions produced at the conclusion of each chamber sterilization cycle. The new Chamber 14 backvent will exhaust to the facility's existing Donaldson catalytic oxidizer system via an existing inlet duct. The Donaldson system control efficiency for the Chamber 14 backvent will be $\geq$ 99%.

(2) Increasing the facility's cap on the usage of EO or PO by 20% to accommodate the new chamber mentioned above. The 20% increase will revise the EO/PO usage caps to: 1,692,000 lbs/year and 1,790 lbs/hour.

(3) Rerouting the facility's remaining nine (9) backvent emissions which currently are uncontrolled, to the existing Donaldson catalytic oxidizer for emissions treatment. (Note: The backvents for Chambers 8, 9, 10 and 13 were re-routed to the Donaldson system in 2013. This request entails rerouting backvents for Chambers 1, 2, 3, 4, 5, 6, 7, 11 and 12.) This change will result in all chamber backvents receiving emissions treatment to a minimum control efficiency of 99%.

(4) Updating equipment descriptions in the current permit (shown in Table 104) for several listed emission sources. These revisions pertain only to "like-for-like" equipment replacements made in recent years. The new equipment has the same capacity and/or level of emissions as the replaced equipment.

D. Table 102.A and Table 102.B show the total potential emissions from this facility for information only, not an enforceable condition, excluding exempt sources or activities.

Table 102.A: Total Potential Pollutant Emissions from Entire Facility

Pollutant	Emissions (tons per year)
Nitrogen Oxides (NOx)	9.6
Carbon Monoxide (CO)	8.0
Volatile Organic Compounds (VOC) *	6.6
Sulfur Dioxide (SO_2)	<1
Particulate Matter less than 10 microns (PM_{10})	<1

Table 102.B: Total Potential HAP Emissions from Entire Facility

Pollutant	Emissions (tons per year)
Ethylene Oxide	6.1
Propylene Oxide	
Total HAPs**	6.1

* HAP emissions are already included in the VOC emission total.

** The total HAP emissions may not agree with the sum of individual HAPs because only individual HAPs greater than 1.0 tons per year are listed here.

A103 Facility: Applicable Regulations

A. The permittee shall comply with all applicable sections of the requirements listed in Table 103.A.

Table 103.A: Applicable Requirements

Applicable Requirements	Federally Enforceable	Unit No.
20.2.1 NMAC General Provisions	X	Entire Facility
20.2.3 NMAC Ambient Air Quality Standards	X	Entire Facility
20.2.7 NMAC Excess Emissions	X	Entire Facility
20.2.61 NMAC Smoke and Visible Emissions	X	Bx and CD3
20.2.72 NMAC Construction Permit	X	Entire Facility
20.2.73 NMAC Notice of Intent and Emissions Inventory Requirements	X	Entire Facility
20.2.75 NMAC Construction Permit Fees	X	Entire Facility
20.2.82 NMAC MACT Standards for Source Categories of HAPS	X	Entire Facility
40 CFR 50 National Ambient Air Quality Standards	X	Entire Facility
40 CFR 63, Subpart A, General Provisions	X	Sterilization Equipment
40 CFR 63, Subpart O Ethylene Oxide Emissions Standards for Sterilization Facilities	X	Sterilization Equipment

A104 Facility: Regulated Sources

A. Table 104 lists the emission units authorized for this facility. Emission units identified as exempt activities (as defined in 20.2.72.202 NMAC) and/or equipment not regulated pursuant to the Act are not included.

Table 104: Regulated Sources List

Unit No.	Source Description	Make & Model No.	Serial No.	Capacity	Mfr. Date	Status	Controls
S-1	Sterilizer #1 Vacuum Pump	Dekker DV02516 DA2	050926G03	250 cfm	2006	Existing	Controlled by Acid-Water Scrubber (Unit CD-2 or CD-1) at 99.3% reduction efficiency
S-2	Sterilizer #2 Vacuum Pump	Dekker DV02516 DA2	050725G07	250 cfm	2006	Existing	
S-3	Sterilizer #3 Vacuum Pump	Dekker DV0251B DA3	060920G01	250 cfm	TBD	Replacement Unit	
S-4	Sterilizer #4 Vacuum Pump	Dekker DV025OB DA2	12005	250 cfm	TBD	Replacement Unit	
S-5	Sterilizer #5 Vacuum Pump	Dekker DV0251B DA2	060610G03	250 cfm	TBD	Replacement Unit	
S-6	Sterilizer #6 Vacuum Pump	Dekker DV0251B DA3	070129G03	250 cfm	TBD	Replacement Unit	
S-7	Sterilizer #7 Vacuum Pump	Dekker DV0550B KA2	070323G11	550 cfm	TBD	Replacement Unit	
S-8	Sterilizer #8 Vacuum Pumps for 30 Pallet Chamber	Dekker PUMP A&B DV0550B KA3	C02373602/C 02373601	2 @ 550 cfm	TBD	Replacement Unit	
S-9	Sterilizer #9 Vacuum Pumps for 30 Pallet Chamber	Dekker DV0550B KA3/ DV0550B-KA2	060427G05/ C02373609	2 @ 550 cfm	TBD	Replacement Unit	
S-10	Sterilizer #10 Vacuum Pumps for 30 Pallet Chamber	Dekker DVB0550B KA2	071031G06	550 cfm	TBD	Replacement Unit	
S-11	Sterilizer #11 Vacuum Pump for 15 pallet chamber	Dekker DV0550B KA2	050628G02	550 cfm	TBD	Replacement Unit	
S-12	Sterilizer #12 Vacuum Pump for 30 pallet chamber	Sterling SIHI LEHA 900 AB	BFK4SP	550 cfm	2006	Existing	
S-13	Sterilizer #13 Vacuum Pump for 30 Pallet Chamber	Dekker DVO550-KA2	O61031G10	550 cfm	2007	New 2007	

Unit No.	Source Description	Make & Model No.	Serial No.	Capacity	Mfr. Date	Status	Controls
S-14	Sterilizer #14 Vacuum Pump for 30 Pallet Chamber	TBD	TBD	TBD	TBD	TBD	Controlled by Catalytic Oxidizer (Unit CD-3) at 99% reduction efficiency.
AR 8	Aeration Room 8	Blower	--	9000 cfm	2006	Modified 2007	
AR09	Aeration Room 9	Blower	--	6000 cfm	2010	Modified 2013	
BV-1	Back Vent Exhaust for S-1	Captive Air BI18CARM	455172	3,000 cfm	1986	To be Modified	
BV-2	Back Vent Exhaust for S-2	Captive Air BI18CARM	404418	3,000 cfm	1986	To be Modified	
BV-3	Back Vent Exhaust for S-3	Dayton UK	D2C799A	1,800 cfm	1986	To be Modified	
BV-4	Back Vent Exhaust for S-4	Dayton UK	2C799A	1,800 cfm	1986	To be Modified	
BV-5	Back Vent Exhaust for S-5	Dayton UK	13C074A	1,800 cfm	1986	To be Modified	
BV-6	Back Vent Exhaust for S-6	Dayton UK	D3C074A	1,800 cfm	1986	To be Modified	
BV-7	Back Vent Exhaust for S-7	Dayton UK	10C074A	1,800 cfm	1995	To be Modified	
BV-11	Back Vent Exhaust for S-11	Greenheck 12-BISW-41-10-11	05L11546	1,800 cfm	2005	To be Modified	
BV-12	Back Vent Exhaust for S-12	Greenheck 12-BISW-41-10-11	5647269-12982637	2,000 cfm	3/28/07	To be Modified	
BV-8	Back Vent Exhaust for S-8	Greenheck 12-BISW41-X-10-11	118657780909	1800 cfm	3/16/10	New 2013	
BV-9	Back Vent Exhaust for S-9	Greenheck 12-BISW41-10-11	123271141102	1800 cfm	3/08/11	New 2013	
BV-10	Back Vent Exhaust for S-10	Greenheck 12-BISW41-X-10-11	118724370909	1800 cfm	2/17/10	New 2013	
BV-13	Back Vent Exhaust for S-13	Greenheck 12-BISW-41	07B02982	1,800 cfm	8/13/07	New 2013	
BV-14	Back Vent Exhaust for S-14	TBD	TBD	TBD	TBD	TBD	

Unit No.	Source Description	Make & Model No.	Serial No.	Capacity	Mfr. Date	Status	Controls
CD-1	Acid-Water Scrubber	Deoxx 88-485	None	600 cfm	1989	Existing	Back-up for CD-2
CD-2	Acid-Water Scrubber	Ceilcote SPT-54-240	81318	2500 cfm	2004	Existing	Controls S-1 to S-14
CD-3	Catalytic Oxidizer	Donaldson 20,000 AG EtO Abator	None	20,000 cfm	1991	Existing	Controls AR 08, AR 09, BV 1-14
Bx	Any combination of natural gas boilers not to exceed a manufactures energy input rating of 18 MM Btu/hr	Various	Various	18 MM Btu/hr (Combined Max)	N/A	N/A	N/A

1. All TBD (to be determined) units and like-kind engine replacements must be evaluated for applicability to NSPS and NESHAP requirements.

A105 Facility: Control Equipment

A. Table 105 lists all the pollution control equipment required for this facility. Each emission point is identified by the same number that was assigned to it in the permit application.

Table 105: Control Equipment List:

Control Equipment Unit No.	Control Description	Pollutant being controlled	Control for Unit Number(s)[1]
CD-1	Deoxx Acid-Water Scrubber System	Ethylene Oxide, Propylene Oxide	S-1 – S-14, (Back-up to CD-2)
CD-2	Ceilcote Acid-Water Scrubber System	Ethylene Oxide, Propylene Oxide	S-1- S-14
CD-3	Donaldson 20,000 AG EtO Abator	Ethylene Oxide, Propylene Oxide	AR-08, AR-09, BV-1 – BV-14

1. Control for unit number refers to a unit number from the Regulated Equipment List

A106 Facility: Allowable Emissions

A. The following Section lists the emission units and their allowable emission limits. (40 CFR 50, 40 CFR 63, Subparts A and O, 20.2.72.210.A and B.1 NMAC).

Table 106.A: Allowable Emissions

Unit No.	NO_x[1] pph	NO_x[1] tpy	CO pph	CO tpy	VOC pph	VOC tpy	EO or PO pph	EO or PO tpy
CD-1 or CD-2	-	-	-	-	*	5.7	*	5.7
CD-3	<	1.7	<	1.4	<	<	0.9	0.4

1 Nitrogen dioxide emissions include all oxides of nitrogen expressed as NO_2

2 "-" indicates the application represented emissions of this pollutant are not expected.
"<" indicates the application represented uncontrolled emissions are less than 1.0 pph or 1.0 tpy for this pollutant. Allowable limits are not imposed on this level of emissions, except for flares and pollutants with controls.
"*" indicates hourly emission limits are not appropriate for this operating situation.

A107 Facility: Allowable Startup, Shutdown, & Maintenance (SSM) and Malfunction Emissions

A. Separate allowable SSM emission limits are not required for this facility since the SSM emissions are predicted to be less than the limits established in Table 106A. The permittee shall maintain records in accordance with Condition B109.C.

A108 Facility: Allowable Operations

A. This facility is authorized for continuous operation. Monitoring, recordkeeping, and reporting are not required to demonstrate compliance with continuous hours of operation

B. Propylene oxide (PO) may be substituted for ethylene oxide (EO), but the combined maximum charges are limited to the charge rate(s) specified in Condition A108.C and the PO emission shall be routed through the same control equipment as the EO emissions.

C. Ethylene Oxide and Propylene Oxide Charging Rates

Requirement:
The combined maximum ethylene oxide gas charge rate(s) to the sterilizer chambers (Units S-1 to S-14) shall not exceed the following limits:

(a) 1,790 lbs per hour, hourly average and averaged over a 24-hour period,
(b) 1,692,000 lbs per 12 month period, calculated as a monthly rolling 12-month total.

Monitoring:
Hourly, the permittee shall monitor the following:

(1) EO or PO charge rates for each of the sterilization chambers (Units S-1 to S-14).

Recordkeeping: Records shall include:

(1) Date; (2) EO or PO pounds per hour averaged over a 24 hour period; (3) EO or PO pounds per 12 month period, calculated as a monthly rolling 12-month total.
Reporting: The permittee shall report in accordance with Section B110.

A109 Facility: Reporting Schedules – Not Applicable

A110 Facility: Fuel Sulfur Requirements

A. Fuel and Fuel Sulfur Requirements (CD3 and Bx)

Requirement: All combustion emission units shall combust only natural gas containing no more than 5.0 grains of total sulfur per 100 dry standard cubic feet
Monitoring: None
Recordkeeping: The permittee shall demonstrate compliance with the natural gas or fuel oil limit on total sulfur content by maintaining records of a current, valid purchase contract, tariff sheet or transportation contract for the gaseous or liquid fuel, or fuel gas analysis, specifying the allowable limit or less.
Reporting: The permittee shall report in accordance with Section B110.

A111 Facility: 20.2.61 NMAC Opacity

A. 20.2.61 NMAC Opacity Limit (Units CD3 and Bx)

Requirement: Visible emissions from all stationary combustion emission stacks shall not equal or exceed an opacity of 20 percent.
Monitoring: Use of natural gas fuel constitutes compliance with 20.2.61 NMAC unless opacity equals or exceeds 20% averaged over a 10-minute period. When any visible emissions are observed at or above 20% opacity, during steady state operation, opacity shall be measured over a 10-minute period, in accordance with the procedures at 40 CFR 60, Appendix A, Method 9 as required by 20.2.61.114 NMAC
Recordkeeping: The permittee shall record the opacity measures with the corresponding opacity readings in accordance with Method 9 in 40 CFR 60, Appendix A.
Reporting: The permittee shall report in accordance with Section B110.

A112 Facility: Haul Roads – Not Applicable

A113 Facility: Initial Location Requirements – Not Applicable

A114 Facility: Relocation Requirements

A. This facility may not be relocated.

A115 Alternative Operating Scenario – Not required

A116 Compliance Plan – Not Required

A117 Reducing Facility Emissions

A. Within 60 days of permit issuance, the permittee shall come into compliance with the emissions limits in this permit NSR (0733M15R1) by permanently ducting the remaining back vents (BV 1-7, 11, 12, and 14) to the Donaldson catalytic oxidizer.

A200 Oil and Gas Industry – Not Required

A300 Construction Industry – Aggregate – Not Required

A400 Construction Industry – Asphalt – Not Required

A500 Construction Industry – Concrete

A600 Power Generation Industry – Not Required

A700 Solid Waste Disposal (Landfills) Industry– Not Required

STERILIZATION FACILITIES INTRODUCTION

A800 Sterilization Facilities Introduction

A. 40 CFR 63 Subpart O: Ethylene Oxide Emissions Standards for Sterilization Facilities

Requirement: This facility is subject to 40 CFR 63, Subparts A and O and shall comply with all applicable requirements of the regulation.
Monitoring: The permittee shall comply with all applicable monitoring requirements of 40

CFR 63, Subparts A and O.
Recordkeeping: The permittee shall comply with all applicable recordkeeping requirements of 40 CFR 63, Subparts A and O.
Reporting: The permittee shall comply with all applicable recordkeeping requirements of 40 CFR 63, Subparts A and O.

B. Oil Seals

Requirement: All pumps in contact with EO or PO shall have closed-loop oil seals. All oil seals shall be maintained to ensure integrity.
Monitoring: The permittee shall inspect the oil seals weekly to ensure proper operations.
Recordkeeping: The permittee shall keep records of the required monitoring and any maintenance performed for EO or PO pump oil seals.
Reporting: The permittee shall report in accordance with Section B110.

C. This Specific Condition (A800.C) supersedes General Condition B111.C.4.:

During emissions tests, pollutant, O_2 concentration and fuel flow rate ***(if fuels are being combusted)*** shall be monitored and recorded. This information shall be included with the test report furnished to the Department.

A801 Sterilization Chamber

A. Sterilization Chambers (S1- S14)

Requirement: The permittee shall not operate any sterilization chambers unless their respective emission control equipment (CD-1 or CD-2) is operated in accordance with manufacturer specifications.
Monitoring: To ensure that the control equipment is operating in accordance with manufacturer specifications, during each day that the sterilization chambers are in use, the permittee shall monitor: (1) The control equipment (CD-1 or CD-2) is operating within the specified parameters in Condition A801.B.
Recordkeeping: The permittee shall maintain records of all daily inspections and record all of the parameters specified in Condition A801.B.
Reporting: The permittee shall report in accordance with Section B110.

B. Acid-Water Scrubber (Unit CD-1 and CD-2)

Requirement: All emissions from Units S-1 – S-14 shall be ducted to the acid-water scrubber CD-1 or CD-2. The permittee shall not operate the units S1- S14 unless the units CD-1 or CD-2 are operating within the specified parameters in this condition. Unit CD-1 may be used as a back-up for Unit CD-2 only when Unit CD-1 has minimum emission reduction efficiency equal to or greater than Unit CD-2. Compliance with this condition demonstrates compliance with the emission limits in Table

106.A for Units CD-1 and CD-2.

Monitoring: Each day, the permittee shall monitor the following parameters for each acid-water scrubber operated in any one calendar day.

A) For CD-1, the permittee shall monitor:

(1) The gas flow rate shall not exceed 600 ACFM @ 90 degrees Fahrenheit;

(2) The liquid temperature shall not exceed 100 degrees Fahrenheit;

(3) The liquid pH shall be $\leq$1; and

(4) The permittee shall monitor the scrubber spray atomizers and ensure that they are operating.

B) For CD-2, the permittee shall monitor:

(1) The gas flow rate shall not exceed 2500 SCFM @ 90 degrees Fahrenheit;

(2) The liquid temperature shall not exceed 120 degrees Fahrenheit;

(3) The liquid pH shall be $\leq$2; and

(4) Daily, the permittee shall monitor the scrubber spray atomizers to ensure that they are operating.

The permittee shall monitor the date, start time, and end time of any downtime and/or maintenance of the units CD-1 and CD-2.

Recordkeeping: Daily, the permittee shall record:

For CD-1 and CD-2, the permittee shall record:

(1) The gas flow rate;

(2) The gas inlet temperature;

(3) The liquid temperature;

(4) The liquid pH; and

(5) The permittee shall record inspections of the scrubber spray atomizers and the results of the inspections.

The permittee shall record the date, start time, and end time of any downtime and/or maintenance of the units CD-1 and CD-2.

Reporting: The permittee shall report in accordance with Section B110.

C. Interlock Systems for Acid-Water Scrubber (Unit CD-1 and CD-2)

Requirement: Units CD-1 and CD-2 shall be equipped with an interlock system to prevent emission discharges to the atmosphere any time the scrubber system experiences a control parameter malfunction. Set points for the sterilization system interlock shall be specified by the control device (CD-1 or CD-2) manufacturer and compliance test results (as applicable) for the unit. Upon request by Department personnel during an onsite inspection, the permittee shall demonstrate to the inspector that the interlock systems are operating within the set points.
Monitoring: The permittee shall monitor: 1. Daily, the permittee shall monitor for the parameters in Condition A 801.B to demonstrate that the interlock system is operating within the set points as specified by the control device (CD-1 or CD-2). 2. The permittee shall monitor each time the Interlock System is used.
Recordkeeping: 1. Daily, the permittee shall record that the interlock system is operating within the set points as specified in Condition A801.B for the control device (CD-1 or CD-2). 2. The permittee shall record each time the Interlock System is used.
Reporting: The permittee shall report in accordance with Section B110.

D. Acid-Water Scrubber Shut down Alarm (Unit CD-1 and CD-2)

Requirement: The shutdown alarm on the acid-water scrubber shall be set to maintain at least a thirty (30) minute average residence time to ensure ethylene glycol formation during the scrubber operation.
Monitoring: The permittee shall monitor the alarm on the acid-water scrubber to ensure at least (30) minutes average residence time, each time the scrubber is operating.
Recordkeeping: The permittee shall record each time the average residence time fails to maintain at least 30 minutes average residence time.
Reporting: The permittee shall report in accordance with Section B110.

A802 Aerating Rooms, Backvents, and Catalytic Oxidizer

A. Operational and Control Requirements for Units AR-08, AR-09, and Units BV1-BV14)

Requirement: A.) All emissions from aeration rooms AR-08 and AR-09 shall be ducted to the catalytic oxidizer (Unit CD-3). Emissions from Units BV1- BV14 shall be vented to (Unit CD-3). B.) All untreated process emissions from the aeration rooms (AR-08 and AR-09) must be isolated and the chamber back vents (BV1- BV14) must not operate whenever the catalytic oxidizer (CD-3) is not within operating temperatures. C.) The permittee shall ensure that a continuous strip chart recorder or data acquisition system

for monitoring the catalytic bed temperature is continuously operated at all times the catalytic control system is in operation. E.) Compliance with this condition demonstrates compliance with the emission limits for Unit CD-3 in Table 106.A.
Monitoring: (1) The permittee shall continuously monitor the temperature at the outlet of the catalyst bed. (2) Monthly, the permittee shall monitor the pressure drop across the catalyst bed. (3) In the event of a malfunction of the continuous recorder, manual temperature recordings of the inlet temperature to the catalyst bed shall be taken hourly. The continuous temperature recorder shall be repaired within seven calendar days. (4) The permittee shall monitor the date, start time, and end time of any downtime and/or maintenance of the unit CD-3.
Recordkeeping: (1) The permittee shall keep a monthly record of the data from the continuous strip chart recorder or data acquisition system for monitoring the catalytic bed temperature. (2) Monthly, the permittee shall record the pressure drop across the catalyst bed. (3) The permittee shall record the date, start time, and end time of any downtime and/or maintenance of the unit CD-3.
Reporting: The permittee shall report in accordance with Section B110.

B. Interlock Systems for Catalytic Oxidizer (Unit CD-3)

Requirement: Unit CD-3 shall be equipped with an interlock system to prevent emission discharges to the atmosphere any time the catalytic system experiences a control parameter malfunction. Set points for the sterilization system interlock shall be specified by the control device, CD-3, manufacturer and compliance test results (as appropriate) for the unit. Upon request by Department personnel during an onsite inspection, the permittee shall demonstrate to the inspector that the interlock systems are operating within the set points.
Monitoring: (1) Daily, the permittee shall monitor (CD-3) operating temperature to ensure it is operating within the temperature set points as specified for the control device (CD-3) from the manufacturer specification sheet and compliance test results (as appropriate). (2) Monthly, the permittee shall monitor the pressure drop across the catalyst bed of (CD-3) and ensure that it meets the manufacturer's specification. (3) The permittee shall monitor each time the Interlock System is used.
Recordkeeping: (1) Daily, the permittee shall record that the interlock system is operating within the temperature set points as specified by the manufacturer specifications and compliance test

results (as appropriate) for the control device (CD-3). (2) Monthly, the permittee shall record the pressure drop across the catalyst bed of (CD-3). (3) The permittee shall record each time the Interlock System is used. (4) The permittee shall maintain a copy of the manufacturer specification sheet on the premises and provide it to the Department's inspector upon request.
Reporting: The permittee shall report in accordance with Section B110.

PART B GENERAL CONDITIONS

B100 Introduction

A. The Department has reviewed the permit application for the proposed construction/modification/revision and has determined that the provisions of the Act and ambient air quality standards will be met. Conditions have been imposed in this permit to assure continued compliance. 20.2.72.210.D NMAC, states that any term or condition imposed by the Department on a permit is enforceable to the same extent as a regulation of the Environmental Improvement Board.

B101 Legal

A. The contents of a permit application specifically identified by the Department shall become the terms and conditions of the permit or permit revision. Unless modified by conditions of this permit, the permittee shall construct or modify and operate the Facility in accordance with all representations of the application and supplemental submittals that the Department relied upon to determine compliance with applicable regulations and ambient air quality standards. If the Department relied on air quality modeling to issue this permit, any change in the parameters used for this modeling shall be submitted to the Department for review. Upon the Department's request, the permittee shall submit additional modeling for review by the Department. Results of that review may require a permit modification. (20.2.72.210.A NMAC)

B. Any future physical changes, changes in the method of operation or changes in restricted area may constitute a modification as defined by 20.2.72 NMAC, Construction Permits. Unless the source or activity is exempt under 20.2.72.202 NMAC, no modification shall begin prior to issuance of a permit. (20.2.72 NMAC Sections 200.A.2 and E, and 210.B.4)

C. Changes in plans, specifications, and other representations stated in the application documents shall not be made if they cause a change in the method of control of emissions or in the character of emissions, will increase the discharge of emissions or affect modeling results. Any such proposed changes shall be submitted as a revision or modification. (20.2.72 NMAC Sections 200.A.2 and E, and 210.B.4)

D. The permittee shall establish and maintain the property's Restricted Area as identified in plot plan submitted with the application. (20.2.72 NMAC Sections 200.A.2 and E, and 210.B.4)

E. Applications for permit revisions and modifications shall be submitted to:

Program Manager, Permits Section
New Mexico Environment Department
Air Quality Bureau
525 Camino de los Marquez, Suite 1
Santa Fe, NM 87505

F. The owner or operator of a source having an excess emission shall, to the extent practicable, operate the source, including associated air pollution control equipment, in a manner consistent with good air pollutant control practices for minimizing emissions. (20.2.7.109 NMAC). The establishment of allowable malfunction emission limits does not supersede this requirement.

B102 Authority

A. This permit is issued pursuant to the Air Quality Control Act (Act) and regulations adopted pursuant to the Act including Title 20, Chapter 2, Part 72 of the New Mexico Administrative Code (NMAC), (20.2.72 NMAC), Construction Permits and is enforceable pursuant to the Act and the air quality control regulations applicable to this source.

B. The Department is the Administrator for 40 CFR Parts 60, 61, and 63 pursuant to the delegation and exceptions of Section 10 of 20.2.77 NMAC (NSPS), 20.2.78 NMAC (NESHAP), and 20.2.82 NMAC (MACT).

B103 Annual Fee

A. The Department will assess an annual fee for this Facility. The regulation 20.2.75 NMAC set the fee amount at $1,500 through 2004 and requires it to be adjusted annually for the Consumer Price Index on January 1. The current fee amount is available by contacting the Department or can be found on the Department's website. The AQB will invoice the permittee for the annual fee amount at the beginning of each calendar year. This fee does not apply to sources which are assessed an annual fee in accordance with 20.2.71 NMAC. For sources that satisfy the definition of "small business" in 20.2.75.7.F NMAC, this annual fee will be divided by two. (20.2.75.11 NMAC)

B. All fees shall be remitted in the form of a corporate check, certified check, or money order made payable to the "NM Environment Department, AQB" mailed to the

address shown on the invoice and shall be accompanied by the remittance slip attached to the invoice.

B104 Appeal Procedures

A. Any person who participated in a permitting action before the Department and who is adversely affected by such permitting action, may file a petition for hearing before the Environmental Improvement Board. The petition shall be made in writing to the Environmental Improvement Board within thirty (30) days from the date notice is given of the Department's action and shall specify the portions of the permitting action to which the petitioner objects, certify that a copy of the petition has been mailed or hand-delivered and attach a copy of the permitting action for which review is sought. Unless a timely request for hearing is made, the decision of the Department shall be final. The petition shall be copied simultaneously to the Department upon receipt of the appeal notice. If the petitioner is not the applicant or permittee, the petitioner shall mail or hand-deliver a copy of the petition to the applicant or permittee. The Department shall certify the administrative record to the board. Petitions for a hearing shall be sent to: (20.2.72.207.F NMAC)

Secretary, New Mexico Environmental Improvement Board
1190 St. Francis Drive, Runnels Bldg. Rm. N2153
Santa Fe, New Mexico 87502

B105 Submittal of Reports and Certifications

A. Stack Test Protocols and Stack Test Reports shall be submitted electronically to Stacktest.AQB@state.nm.us or as directed by the Department.

B. Excess Emission Reports shall be submitted as directed by the Department. (20.2.7.110 NMAC)

C. Routine reports shall be submitted to the mailing address below, or as directed by the Department:

Manager, Compliance and Enforcement Section
New Mexico Environment Department
Air Quality Bureau
525 Camino de los Marquez, Suite 1
Santa Fe, NM 87505

B106 NSPS and/or MACT Startup, Shutdown, and Malfunction Operations

A. If a facility is subject to a NSPS standard in 40 CFR 60, each owner or operator that installs and operates a continuous monitoring device required by a NSPS regulation

shall comply with the excess emissions reporting requirements in accordance with 40 CFR 60.7(c), unless specifically exempted in the applicable subpart.

B. If a facility is subject to a NSPS standard in 40 CFR 60, then in accordance with 40 CFR 60.8(c), emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction shall not be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard.

C. If a facility is subject to a MACT standard in 40 CFR 63, then the facility is subject to the requirement for a Startup, Shutdown and Malfunction Plan (SSM) under 40 CFR 63.6(e)(3), unless specifically exempted in the applicable subpart.

B107 Startup, Shutdown, and Maintenance Operations

A. The establishment of permitted startup, shutdown, and maintenance (SSM) emission limits does not supersede the requirements of 20.2.7.14.A NMAC. Except for operations or equipment subject to Condition B106, the permittee shall establish and implement a plan to minimize emissions during routine or predictable start up, shut down, and scheduled maintenance (SSM work practice plan) and shall operate in accordance with the procedures set forth in the plan. (SSM work practice plan) (20.2.7.14.A NMAC)

B108 General Monitoring Requirements

A. These requirements do not supersede or relax requirements of federal regulations.

B. The following monitoring requirements shall be used to determine compliance with applicable requirements and emission limits. Any sampling, whether by portable analyzer or EPA reference method, that measures an emission rate over the applicable averaging period greater than an emission limit in this permit constitutes noncompliance with this permit. The Department may require, at its discretion, additional tests pursuant to EPA Reference Methods at any time, including when sampling by portable analyzer measures an emission rate greater than an emission limit in this permit; but such requirement shall not be construed as a determination that the sampling by portable analyzer does not establish noncompliance with this permit and shall not stay enforcement of such noncompliance based on the sampling by portable analyzer.

C. If the emission unit is shutdown at the time when periodic monitoring is due to be accomplished, the permittee is not required to restart the unit for the sole purpose of performing the monitoring. Using electronic or written mail, the permittee shall notify the Department's Compliance and Enforcement Section of a delay in emission tests prior to the deadline for accomplishing the tests. Upon recommencing operation, the permittee shall submit any pertinent pre-test notification requirements set forth in the

current version of the Department's Standard Operating Procedures For Use Of Portable Analyzers in Performance Test, and shall accomplish the monitoring.

D. The requirement for monitoring during any monitoring period is based on the percentage of time that the unit has operated. However, to invoke the monitoring period exemption at B108.D(2), hours of operation shall be monitored and recorded.

(1) If the emission unit has operated for more than 25% of a monitoring period, then the permittee shall conduct monitoring during that period.

(2) If the emission unit has operated for 25% or less of a monitoring period then the monitoring is not required. After two successive periods without monitoring, the permittee shall conduct monitoring during the next period regardless of the time operated during that period, except that for any monitoring period in which a unit has operated for less than 10% of the monitoring period, the period will not be considered as one of the two successive periods.

(3) If invoking the monitoring **period** exemption in B108.D(2), the actual operating time of a unit shall not exceed the monitoring period required by this permit before the required monitoring is performed. For example, if the monitoring period is annual, the operating hours of the unit shall not exceed 8760 hours before monitoring is conducted. Regardless of the time that a unit actually operates, a minimum of one of each type of monitoring activity shall be conducted during any five-year period.

E. For all periodic monitoring events, except when a federal or state regulation is more stringent, three test runs shall be conducted at 90% or greater of the unit's capacity as stated in this permit, or in the permit application if not in the permit, and at additional loads when requested by the Department. If the 90% capacity cannot be achieved, the monitoring will be conducted at the maximum achievable load under prevailing operating conditions except when a federal or state regulation requires more restrictive test conditions. The load and the parameters used to calculate it shall be recorded to document operating conditions and shall be included with the monitoring report.

F. When requested by the Department, the permittee shall provide schedules of testing and monitoring activities. Compliance tests from previous NSR and Title V permits may be re-imposed if it is deemed necessary by the Department to determine whether the source is in compliance with applicable regulations or permit conditions.

G. If monitoring is new or is in addition to monitoring imposed by an existing applicable requirement, it shall become effective 120 days after the date of permit issuance. For emission units that have not commenced operation, the associated new or additional monitoring shall not apply until 120 days after the units commence operation. All pre-existing monitoring requirements incorporated in this permit shall continue to apply from the date of permit issuance.

B109 General Recordkeeping Requirements

A. The permittee shall maintain records to assure and verify compliance with the terms and conditions of this permit and any other applicable requirements that become effective after permit issuance. The minimum information to be included in these records is:

(1) equipment identification (include make, model and serial number for all tested equipment and emission controls);

(2) date(s) and time(s) of sampling or measurements;

(3) date(s) analyses were performed;

(4) the qualified entity that performed the analyses;

(5) analytical or test methods used;

(6) results of analyses or tests; and

(7) operating conditions existing at the time of sampling or measurement.

B. Except as provided in the Specific Conditions, records shall be maintained on-site or at the permittee's local business office for a minimum of two (2) years from the time of recording and shall be made available to Department personnel upon request. Sources subject to 20.2.70 NMAC "Operating Permits" shall maintain records on-site for a minimum of five (5) years from the time of recording.

C. Unless otherwise indicated by Specific Conditions, the permittee shall keep the following records for malfunction emissions and routine or predictable emissions during startup, shutdown, and scheduled maintenance (SSM):

(1) The owner or operator of a source subject to a permit shall establish and implement a plan to minimize emissions during routine or predictable startup, shutdown, and scheduled maintenance through work practice standards and good air pollution control practices. This requirement shall not apply to any affected facility defined in and subject to an emissions standard and an equivalent plan under 40 CFR Part 60 (NSPS), 40 CFR Part 63 (MACT), or an equivalent plan under 20.2.72 NMAC - Construction Permits, 20.2.70 NMAC - Operating Permits, 20.2.74 NMAC - Permits - Prevention of Significant Deterioration (PSD), or 20.2.79 NMAC - Permits - Nonattainment Areas. The permittee shall keep records of all sources subject to the plan to minimize emissions during routine or predictable SSM and shall record if the source is subject to an alternative plan and therefore, not subject to the plan requirements under 20.2.7.14.A NMAC.

(2) If the facility has allowable SSM emission limits in this permit, the permittee shall record all SSM events, including the date, the start time, the end time, a description of the event, and a description of the cause of the event. This record also shall include a copy of the manufacturer's, or equivalent, documentation showing that

any maintenance qualified as scheduled. Scheduled maintenance is an activity that occurs at an established frequency pursuant to a written protocol published by the manufacturer or other reliable source. The authorization of allowable SSM emissions does not supersede any applicable federal or state standard. The most stringent requirement applies.

(3) If the facility has allowable malfunction emission limits in this permit, the permittee shall record all malfunction events to be applied against these limits. The permittee shall also include the date, the start time, the end time, and a description of the event. **Malfunction means** any sudden and unavoidable failure of air pollution control equipment or process equipment beyond the control of the owner or operator, including malfunction during startup or shutdown. A failure that is caused entirely or in part by poor maintenance, careless operation, or any other preventable equipment breakdown shall not be considered a malfunction. (20.2.7.7.E NMAC) The authorization of allowable malfunction emissions does not supersede any applicable federal or state standard. The most stringent requirement applies. This authorization only allows the permittee to avoid submitting reports under 20.2.7 NMAC for total annual emissions that are below the authorized malfunction emission limit.

(4) The owner or operator of a source shall meet the operational plan defining the measures to be taken to mitigate source emissions during malfunction, startup or shutdown. (20.2.72.203.A(5) NMAC)

B110 General Reporting Requirements
(20.2.72 NMAC Sections 210 and 212)

A. Records and reports shall be maintained on-site or at the permittee's local business office unless specifically required to be submitted to the Department or EPA by another condition of this permit or by a state or federal regulation. Records for unmanned sites may be kept at the nearest business office.

B. The permittee shall notify the Department's Compliance Reporting Section using the current Submittal Form posted to NMED's Air Quality web site under Compliance and Enforcement/Submittal Forms in writing of, or provide the Department with (20.2.72.212.A and B):

(1) the anticipated date of initial startup of each new or modified source not less than thirty (30) days prior to the date. Notification may occur prior to issuance of the permit, but actual startup shall not occur earlier than the permit issuance date;

(2) after receiving authority to construct, the equipment serial number as provided by the manufacturer or permanently affixed if shop-built and the actual date of initial startup of each new or modified source within fifteen (15) days after the startup date; and

(3) the date when each new or modified emission source reaches the maximum production rate at which it will operate within fifteen (15) days after that date.

C. The permittee shall notify the Department's Permitting Program Manager, in writing of, or provide the Department with (20.2.72.212.C and D):

(1) any change of operators or any equipment substitutions within fifteen (15) days of such change;

(2) any necessary update or correction no more than sixty (60) days after the operator knows or should have known of the condition necessitating the update or correction of the permit.

D. Results of emission tests and monitoring for each pollutant (except opacity) shall be reported in pounds per hour (unless otherwise specified) and tons per year. Opacity shall be reported in percent. The number of significant figures corresponding to the full accuracy inherent in the testing instrument or Method test used to obtain the data shall be used to calculate and report test results in accordance with 20.2.1.116.B and C NMAC. Upon request by the Department, CEMS and other tabular data shall be submitted in editable, MS Excel format.

E. The permittee shall submit reports of excess emissions in accordance with 20.2.7.110.A NMAC.

B111 General Testing Requirements

A. Compliance Tests

(1) Compliance test requirements from previous permits (if any) are still in effect, unless the tests have been satisfactorily completed. Compliance tests may be re-imposed if it is deemed necessary by the Department to determine whether the source is in compliance with applicable regulations or permit conditions. (20.2.72 NMAC Sections 210.C and 213)

(2) Compliance tests shall be conducted within sixty (60) days after the unit(s) achieve the maximum normal production rate. If the maximum normal production rate does not occur within one hundred twenty (120) days of source startup, then the tests must be conducted no later than one hundred eighty (180) days after initial startup of the source.

(3) Unless otherwise indicated by Specific Conditions or regulatory requirements, the default time period for each test run shall be **at least** 60 minutes and each performance test shall consist of three separate runs using the applicable test method. For the purpose of determining compliance with an applicable emission limit, the arithmetic mean of results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of

the sample train, extreme meteorological conditions, or other circumstances, beyond the owner or operator's control, compliance may, upon the Department approval, be determined using the arithmetic mean of the results of the two other runs.

(4) Testing of emissions shall be conducted with the emissions unit operating at 90 to 100 percent of the maximum operating rate allowed by the permit. If it is not possible to test at that rate, the source may test at a lower operating rate, subject to the approval of the Department.

(5) Testing performed at less than 90 percent of permitted capacity will limit emission unit operation to 110 percent of the tested capacity until a new test is conducted.

(6) If conditions change such that unit operation above 110 percent of tested capacity is possible, the source must submit a protocol to the Department within 30 days of such change to conduct a new emissions test.

B. EPA Reference Method Tests

(1) All compliance tests required by this permit, unless otherwise specified by Specific Conditions of this permit, shall be conducted in accordance with the requirements of CFR Title 40, Part 60, Subpart A, General Provisions, and the following EPA Reference Methods as specified by CFR Title 40, Part 60, Appendix A:

(a) Methods 1 through 4 for stack gas flowrate

(b) Method 5 for TSP

(c) Method 6C and 19 for SO_2

(d) Method 7E for NO_X (test results shall be expressed as nitrogen dioxide (NO_2) using a molecular weight of 46 lb/lb-mol in all calculations (each ppm of NO/NO_2 is equivalent to 1.194 x 10-7 lb/SCF)

(e) Method 9 for opacity

(f) Method 10 for CO

(g) Method 19 may be used in lieu of Methods 1-4 for stack gas flowrate upon approval of the Department. A justification for this proposal must be provided along with a contemporaneous fuel gas analysis (preferably on the day of the test) and a recent fuel flow meter calibration certificate (within the most recent quarter).

(h) Method 7E or 20 for Turbines per 60.335 or 60.4400

(i) Method 29 for Metals

(j) Method 201A for filterable PM_{10} and $PM_{2.5}$

(k) Method 202 for condensable PM

(l) Method 320 for organic Hazardous Air Pollutants (HAPs)

(m) Method 25A for VOC reduction efficiency

(n) Method 30B for Mercury

(2) Alternative test method(s) may be used if the Department approves the change

C. Periodic Monitoring and Portable Analyzer Requirements

(1) Periodic emissions tests (periodic monitoring) may be conducted in accordance with EPA Reference Methods or by utilizing a portable analyzer. Periodic monitoring utilizing a portable analyzer shall be conducted in accordance with the requirements of ASTM D 6522-00. However, if a facility has met a previously approved Department criterion for portable analyzers, the analyzer may be operated in accordance with that criterion until it is replaced.

(2) Unless otherwise indicated by Specific Conditions or regulatory requirements, the default time period for each test run shall be **at least** 20 minutes.

Each performance test shall consist of three separate runs. The arithmetic mean of results of the three runs shall be used to determine compliance with the applicable emission limit.

(3) Testing of emissions shall be conducted in accordance with the requirements at Section B108.E.

(4) During emissions tests, pollutant, O_2 concentration and fuel flow rate shall be monitored and recorded. This information shall be included with the test report furnished to the Department.

(5) Pollutant emission rate shall be calculated in accordance with 40 CFR 60, Appendix A, Method 19 utilizing fuel flow rate (scf) and fuel heating value (Btu/scf) obtained during the test.

D. Test Procedures:

(1) The permittee shall notify the Department's Program Manager, Compliance and Enforcement Section at least thirty (30) days before the test date and allow a representative of the Department to be present at the test.

(2) Equipment shall be tested in the "as found" condition. Equipment may not be adjusted or tuned prior to any test for the purpose of lowering emissions, and then returned to previous settings or operating conditions after the test is complete.

(3) Contents of test notifications, protocols and test reports shall conform to the format specified by the Department's Universal Test Notification, Protocol and Report Form and Instructions. Current forms and instructions are posted to NMED's Air Quality web site under Compliance and Enforcement Testing.

(4) The permittee shall provide (a) sampling ports adequate for the test methods applicable to the facility, (b) safe sampling platforms, (c) safe access to sampling platforms and (d) utilities for sampling and testing equipment.

(5) The stack shall be of sufficient height and diameter and the sample ports shall be located so that a representative test of the emissions can be performed in accordance with the requirements of EPA Method 1 or ASTM D 6522-00 as applicable.

(6) Where necessary to prevent cyclonic flow in the stack, flow straighteners shall be installed

(7) Unless otherwise indicated by Specific Conditions or regulatory requirements, test reports shall be submitted to the Department no later than 30 days after completion of the test.

B112 Compliance

A. The Department shall be given the right to enter the facility at all reasonable times to verify the terms and conditions of this permit. Required records shall be organized by date and subject matter and shall at all times be readily available for inspection. The permittee, upon verbal or written request from an authorized representative of the Department who appears at the facility, shall immediately produce for inspection or copying any records required to be maintained at the facility. Upon written request at other times, the permittee shall deliver to the Department paper or electronic copies of any and all required records maintained on site or at an off-site location. Requested records shall be copied and delivered at the permittee's expense within three business days from receipt of request unless the Department allows additional time. Required records may include records required by permit and other information necessary to demonstrate compliance with terms and conditions of this permit. (NMSA 1978, Section 74-2-13)

B. A copy of the most recent permit(s) issued by the Department shall be kept at the permitted facility or (for unmanned sites) at the nearest company office and shall be made available to Department personnel for inspection upon request. (20.2.72.210.B.4 NMAC)

C. Emissions limits associated with the energy input of a Unit, i.e. lb/MMBtu, shall apply at all times unless stated otherwise in a Specific Condition of this permit. The averaging time for each emissions limit, including those based on energy input of a Unit (i.e. lb/MMBtu) is one (1) hour unless stated otherwise in a Specific Condition of this permit or in the applicable requirement that establishes the limit.

B113 Permit Cancellation and Revocation

A. The Department may revoke this permit if the applicant or permittee has knowingly and willfully misrepresented a material fact in the application for the permit. Revocation will be made in writing, and an administrative appeal may be taken to the Secretary of the Department within thirty (30) days. Appeals will be handled in

accordance with the Department's Rules Governing Appeals From Compliance Orders.

B. The Department shall automatically cancel any permit for any source which ceases operation for five (5) years or more, or permanently. Reactivation of any source after the five (5) year period shall require a new permit. (20.2.72 NMAC)

C. The Department may cancel a permit if the construction or modification is not commenced within two (2) years from the date of issuance or if, during the construction or modification, work is suspended for a total of one (1) year. (20.2.72 NMAC)

B114 Notification to Subsequent Owners

A. The permit and conditions apply in the event of any change in control or ownership of the Facility. No permit modification is required in such case. However, in the event of any such change in control or ownership, the permittee shall notify the succeeding owner of the permit and conditions and shall notify the Department's Program Manager, Permits Section of the change in ownership within fifteen (15) days of that change. (20.2.72.212.C NMAC)

B. Any new owner or operator shall notify the Department's Program Manager, Permits Section, within thirty (30) days of assuming ownership, of the new owner's or operator's name and address. (20.2.73.200.E.3 NMAC)

B115 Asbestos Demolition

A. Before any asbestos demolition or renovation work, the permittee shall determine whether 40 CFR 61 Subpart M, National Emissions Standards for Asbestos applies. If required, the permittee shall notify the Department's Program Manager, Compliance and Enforcement Section using forms furnished by the Department.

B116 Short Term Engine Replacement

A. The following Alternative Operating Scenario (AOS) addresses engine breakdown or periodic maintenance and repair, which requires the use of a short term replacement engine. The following requirements do not apply to engines that are exempt per 20.2.72.202.B(3) NMAC. Changes to exempt engines must be reported in accordance with 20.2.72.202.B NMAC. A short term replacement engine may be substituted for any engine allowed by this permit for no more than 120 days in any rolling twelve month period per permitted engine. The compliance demonstrations required as part of this AOS are in addition to any other compliance demonstrations required by this permit.

(1) The permittee may temporarily replace an existing engine that is subject to the emission limits set forth in this permit with another engine regardless of manufacturer, model, and horsepower without modifying this permit. The permittee shall submit written notification to the Department within 15 days of the date of engine substitution according to condition B110.C(1).

(a) The potential emission rates of the replacement engine shall be determined using the replacement engine's manufacturer specifications and shall comply with the existing engine's permitted emission limits.

(b) The direction of the exhaust stack for the replacement engine shall be either vertical or the same direction as for the existing engine. The replacement engine's stack height and flow parameters shall be at least as effective in the dispersion of air pollutants as the modeled stack height and flow parameters for the existing permitted engine. The following equation may be used to show that the replacement engine disperses pollutants as well as the existing engine. The value calculated for the replacement engine on the right side of the equation shall be equal to or greater than the value for the existing engine on the left side of the equation. The permitting page of the Air Quality Bureau website contains a spreadsheet that performs this calculation.

EXISTING ENGINE REPLACMENT ENGINE

$$\frac{[(g) \times (h1)] + [(v1)^2/2] + [(c) \times (T1)]}{q1} <= \frac{[(g) \times (h2)] + [(v2)^2/2] + [(c) \times (T2)]}{q2}$$

Where
g = gravitational constant = 32.2 ft/sec^2
h1 = existing stack height, feet
v1 = exhaust velocity, existing engine, feet per second
c = specific heat of exhaust, 0.28 BTU/lb-degree F
T1 = absolute temperature of exhaust, existing engine = degree F + 460
q1 = permitted allowable emission rate, existing engine, lbs/hour
h2 = replacement stack height, feet
v2 = exhaust velocity, replacement engine, feet per second
T2 = absolute temperature of exhaust, replacement engine = degree F + 460
q2 = manufacturer's potential emission rate, replacement engine, lbs/hour

The permittee shall keep records showing that the replacement engine is at least as effective in the dispersion of air pollutants as the existing engine.

(c) Test measurement of NOx and CO emissions from the temporary replacement engine shall be performed in accordance with Section B111

with the exception of Condition B111A(2) and B111B for EPA Reference Methods Tests or Section B111C for portable analyzer test measurements. Compliance test(s) shall be conducted within fifteen (15) days after the unit begins operation, and records of the results shall be kept according to section B109.B. This test shall be performed even if the engine is removed prior to 15 days on site.

i. These compliance tests are not required for an engine certified under 40CFR60, subparts IIII, or JJJJ, or 40CFR63, subpart ZZZZ if the permittee demonstrates that one of these requirements causes such engine to comply with all emission limits of this permit. The permittee shall submit this demonstration to the Department within 48 hours of placing the new unit into operation. This submittal shall include documentation that the engine is certified, that the engine is within its useful life, as defined and specified in the applicable requirement, and shall include calculations showing that the applicable emissions standards result in compliance with the permit limits.

ii. These compliance tests are not required if a test was conducted by portable analyzer or by EPA Method test (including any required by 40CFR60, subparts IIII and JJJJ and 40CFR63, subpart ZZZZ) within the last 12 months. These previous tests are valid only if conducted at the same or lower elevation as the existing engine location prior to commencing operation as a temporary replacement. A copy of the test results shall be kept according to section B109.B.

(d) Compliance tests for NOx and CO shall be conducted if requested by the Department in writing to determine whether the replacement engine is in compliance with applicable regulations or permit conditions.

(e) Upon determining that emissions data developed according to B116.A.1(c) fail to indicate compliance with either the NOx or CO emission limits, the permittee shall notify the Department within 48 hours. Also within that time, the permittee shall implement one of the following corrective actions:

i. The engine shall be adjusted to reduce NOx and CO emissions and tested per B116.A.1(c) to demonstrate compliance with permit limits.

ii. The engine shall discontinue operation or be replaced with a different unit.

(2) Short term replacement engines, whether of the same manufacturer, model, and horsepower, or of a different manufacturer, model, or horsepower, are subject to all federal and state applicable requirements, regardless of whether they are set forth

in this permit (including monitoring and recordkeeping), and shall be subject to any shield afforded by this permit.

(3) The permittee shall maintain a contemporaneous record documenting the unit number, manufacturer, model number, horsepower, emission factors, emission test results, and serial number of any existing engine that is replaced, and the replacement engine. Additionally, the record shall document the replacement duration in days, and the beginning and end dates of the short term engine replacement.

(4) The permittee shall maintain records of a regulatory applicability determination for each replacement engine (including 40CFR60, subparts IIII and JJJJ and 40CFR63, subpart ZZZZ) and shall comply with all associated regulatory requirements.

B. Additional requirements for replacement of engines at sources that are major as defined in regulation 20.2.74 NMAC, Permits – Prevention of Significant Deterioration, section 7.AG. For sources that are major under PSD, the total cumulative operating hours of the replacement engine shall be limited using the following procedure:

(1) Daily, the actual emissions from the replacement engine(s) of each pollutant regulated by this permit for the existing engine shall be calculated and recorded.

(2) The sum of the total actual emissions since the commencement of operation of the replacement engine(s) shall not equal or exceed the significant emission rates in Table 2 of 20.2.74 NMAC, section 502 for the time that the replacement engine is located at the facility.

C. All records required by this section shall be kept according to section B109.

PART C MISCELLANEOUS

C100 Supporting On-Line Documents

A. Copies of the following documents can be downloaded from NMED's web site under Compliance and Enforcement or requested from the Bureau.

(1) Excess Emission Form (for reporting deviations and emergencies)

(2) Universal Stack Test Notification, Protocol and Report Form and Instructions

(3) SOP for Use of Portable Analyzers in Performance Tests

C101 Definitions

A. **"Daylight"** is defined as the time period between sunrise and sunset, as defined by the Astronomical Applications Department of the U.S. Naval Observatory. (Data for one day or a table of sunrise/sunset for an entire year can be obtained at http://aa.usno.navy.mil/. Alternatively, these times can be obtained from a Farmer's Almanac or from http://www.almanac.com/rise/).

B. **"Exempt Sources"** and **"Exempt Activities"** is defined as those sources or activities that are exempted in accordance with 20.2.72.202 NMAC. Note; exemptions are only valid for most 20.2.72 NMAC permitting actions.

C. **"Fugitive Emission"** means those emissions which could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening.

D. **"Insignificant Activities"** means those activities which have been listed by the department and approved by the administrator as insignificant on the basis of size, emissions or production rate. Note; insignificant activities are only valid for 20.2.70 NMAC permitting actions.

E. **"Malfunction"** for the requirements under 20.2.7 NMAC, means any sudden and unavoidable failure of air pollution control equipment or process equipment beyond the control of the owner or operator, including malfunction during startup or shutdown. A failure that is caused entirely or in part by poor maintenance, careless operation, or any other preventable equipment breakdown shall not be considered a malfunction. (20.2.7.7.E NMAC)

F. **"Natural Gas"** is defined as a naturally occurring fluid mixture of hydrocarbons that contains 20.0 grains or less of total sulfur per 100 standard cubic feet (SCF) and is either composed of at least 70% methane by volume or has a gross calorific value of between 950 and 1100 Btu per standard cubic foot. (40 CFR 60.631)

G. **"Natural Gas Liquids"** means the hydrocarbons, such as ethane, propane, butane, and pentane, that are extracted from field gas. (40 CFR 60.631)

H. **"National Ambient air Quality Standards"** means, unless otherwise modified, the primary (health-related) and secondary (welfare-based) federal ambient air quality standards promulgated by the US EPA pursuant to Section 109 of the Federal Act.

I. **"Night"** is the time period between sunset and sunrise, as defined by the Astronomical Applications Department of the U.S. Naval Observatory. (Data for one day or a table of sunrise/sunset for an entire year can be obtained at http://aa.usno.navy.mil/. Alternatively, these times can be obtained from a Farmer's Almanac or from http://www.almanac.com/rise/).

J. **"Night Operation** or **Operation at Night"** is operating a source of emissions at night.

K. **"NO2"** or "Nitrogen dioxide" means the chemical compound containing one atom of nitrogen and two atoms of oxygen, for the purposes of ambient determinations. The term **"nitrogen dioxide,"** for the purposes of stack emissions monitoring, shall include nitrogen dioxide (the chemical compound containing one atom of nitrogen and two atoms of oxygen), nitric oxide (the chemical compound containing one atom of nitrogen and one atom of oxygen), and other oxides of nitrogen which may test as nitrogen dioxide and is sometimes referred to as NOx or NO_2. (20.2.2 NMAC)

L. "**NOx**" see NO_2

M. "**Paved Road**" is a road with a permanent solid surface that can be swept essentially free of dust or other material to reduce air re-entrainment of particulate matter. To the extent these surfaces remain solid and contiguous they qualify as paved roads: concrete, asphalt, chip seal, recycled asphalt and other surfaces approved by the Department in writing.

N. **"Potential Emission Rate"** means the emission rate of a source at its maximum capacity to emit a regulated air contaminant under its physical and operational design, provided any physical or operational limitation on the capacity of the source to emit a regulated air contaminant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its physical and operational design only if the limitation or the effect it would have on emissions is enforceable by the department pursuant to the Air Quality Control Act or the federal Act.

O. "**Restricted Area**" is an area to which public entry is effectively precluded. Effective barriers include continuous fencing, continuous walls, or other continuous barriers approved by the Department, such as rugged physical terrain with a steep grade that would require special equipment to traverse. If a large property is completely enclosed by fencing, a restricted area within the property may be identified with signage only. Public roads cannot be part of a Restricted Area.

P. **"Shutdown"** for requirements under 20.2.72 NMAC, means the cessation of operation of any air pollution control equipment, process equipment or process for any purpose, except routine phasing out of batch process units.

Q. **"SSM"** for requirements under 20.2.7 NMAC, means routine or predictable startup, shutdown, or scheduled maintenance.

(1) **"Shutdown"** for requirements under 20.2.7 NMAC, means the cessation of operation of any air pollution control equipment or process equipment.

(2) **"Startup"** for requirements under 20.2.7 NMAC, means the setting into operation of any air pollution control equipment or process equipment.

R. **"Startup"** for requirements under 20.2.72 NMAC, means the setting into operation of any air pollution control equipment, process equipment or process for any purpose, except routine phasing in of batch process units.

C102 Acronyms

2SLB	2-stroke lean burn
4SLB	4-stroke lean burn
4SRB	4-stroke rich burn
acfm	actual cubic feet per minute
AFR	air fuel ratio
AP-42	EPA Air Pollutant Emission Factors
AQB	Air Quality Bureau
AQCR	Air Quality Control Region
ASTM	American Society for Testing and Materials
Btu	British thermal unit
CAA	Clean Air Act of 1970 and 1990 Amendments
CEM	continuous emissions monitoring
cfh	cubic feet per hour
cfm	cubic feet per minute
CFR	Code of Federal Regulation
CI	compression ignition
CO	carbon monoxides
COMS	continuous opacity monitoring system
EIB	Environmental Improvement Board
EPA	United States Environmental Protection Agency
gr/100 cf	grains per one hundred cubic feet
gr/dscf	grains per dry standard cubic foot
GRI	Gas Research Institute
HAP	hazardous air pollutant
hp	horsepower
H_2S	hydrogen sulfide
IC	internal combustion
KW/hr	kilowatts per hour
lb/hr	pounds per hour
lb/MMBtu	pounds per million British thermal unit
MACT	Maximum Achievable Control Technology
MMcf/hr	million cubic feet per hour
MMscf	million standard cubic feet
N/A	not applicable

NAAQS.....National Ambient Air Quality Standards
NESHAP .....National Emission Standards for Hazardous Air Pollutants
NG .....natural gas
NGL .....natural gas liquids
NMAAQS .....New Mexico Ambient Air Quality Standards
NMAC.....New Mexico Administrative Code
NMED.....New Mexico Environment Department
NMSA .....New Mexico Statues Annotated
NOx.....nitrogen oxides
NSCR .....non-selective catalytic reduction
NSPS.....New Source Performance Standard
NSR.....New Source Review
PEM .....parametric emissions monitoring
PM..... particulate matter (equivalent to TSP, total suspended particulate)
PM_{10}.....particulate matter 10 microns and less in diameter
$PM_{2.5}$ .....particulate matter 2.5 microns and less in diameter
pph.....pounds per hour
ppmv .....parts per million by volume
PSD .....Prevention of Significant Deterioration
RATA.....Relative Accuracy Test Assessment
RICE .....reciprocating internal combustion engine
rpm .....revolutions per minute
scfm.....standard cubic feet per minute
SI .....spark ignition
SO_2 .....sulfur dioxide
SSM.....Startup Shutdown Maintenance (see SSM definition)
TAP.....Toxic Air Pollutant
TBD.....to be determined
THC.....total hydrocarbons
TSP.....Total Suspended Particulates
tpy .....tons per year
ULSD .....ultra low sulfur diesel
USEPA.....United States Environmental Protection Agency
UTM.....Universal Transverse Mercator Coordinate system
UTMH.....Universal Transverse Mercator Horizontal
UTMV.....Universal Transverse Mercator Vertical
VHAP.....volatile hazardous air pollutant
VOC .....volatile organic compounds

Statement of Basis - Narrative
NSR Permit

Type of Permit Action: Technical Revision

Facility: Sterigenics - Santa Teresa Facility
Company: Sterigenics US LLC
Permit No(s).: 0733M15R1
Tempo/IDEA ID No.: 127 - PRN20140001
Permit Writer: Rhonda Trujillo

Fee Tracking (not required for Title V)

Tracking	**NSR tracking entries completed:** [X] Yes [] No
	NSR tracking page attached to front cover of permit folder: [X] Yes [] No
	Paid Invoice Attached: [] Yes [X] No
	Balance Due Invoice Attached: [X] Yes [] No
	Invoice Comments: Balance of 1,445 due.

Permit Review	**Date to Enforcement:** TBD	**Inspector Reviewing:** Sondra Sage
	Date Enf. Review Completed:	**Date of Reply:** (if necessary)
	Date to Applicant: TBD	**Date of Reply:**
	Date of Comments from EPA: TBD or N/A	**Date to EPA:** TBD or N/A
	Date to Supervisor: TBD	

1.0 **Plant Process Description:**
This facility uses ethylene oxide and propylene oxide to sterilize medical equipment and other food equipment.

2.0 **Description of this Modification:**
(1) Installation of a new 30-pallet sterilization chamber (Chamber 14), including associated process emissions from a new vacuum pump and chamber back vent. The vacuum pump is rated at 550 cfm and will exhaust process emissions from the new chamber directly to the facility's existing Ceilcote scrubber system. The Ceilcote system control efficiency for the new vacuum pump will be $\geq$ 99.3%. The chamber back vent consists of residual Ethylene Oxide (EO) or Propylene Oxide (PO) process emissions produced at the conclusion of each chamber sterilization cycle. The new Chamber 14 back vent will exhaust to the facility's existing Donaldson catalytic oxidizer system via an existing inlet duct. The Donaldson system control efficiency for the Chamber 14 back vent will be $\geq$ 99%.

(2) Increasing the facility's cap on the usage of EO or PO by 20% to accommodate the new chamber mentioned above. The 20% increase will revise the EO/PO usage caps to:

1,692,000 pounds /year; 5880 pounds /day; and 1,790 pounds/hour.

(3) Rerouting the facility's remaining nine (9) back vent emissions which currently are uncontrolled, to the existing Donaldson catalytic oxidizer for emissions treatment. (Note: The back vents for Chambers 8, 9, 10 and 13 were re-routed to the Donaldson system in 2013. This request entails rerouting back vents for Chambers 1, 2, 3, 4, 5, 6, 7, 11 and 12.) This change will result in all chamber back vents receiving emissions treatment to a minimum control efficiency of 99%.

(4) Updating equipment descriptions in the current permit (shown in Table 104) for several listed emission sources. These revisions pertain only to "like-for-like" equipment replacements made in recent years. The new equipment has the same capacity and/or level of emissions as the replaced equipment.

3.0

4.0 Source Determination:

1. The emission sources evaluated include S-1 – S-14, AR-8-AR-9, BV1 – BV14, CD1, CD2, CD3, and Bx.

2. Single Source Analysis:

A. SIC Code: Do the facilities belong to the same industrial grouping (i.e., same two-digit SIC code grouping, or support activity)? Yes

B. Common Ownership or Control: Are the facilities under common ownership or control? Yes

C. Contiguous or Adjacent: Are the facilities located on one or more contiguous or adjacent properties? Yes

3. Is the source, as described in the application, the entire source for 20.2.70, 20.2.72, 20.2.73, or 20.2.74 NMAC applicability purposes? Yes

5.0 **PSD Applicability:**

A. The source, as determined in 3.0 above, is a minor source before and after this modification.

6.0 **History (In descending chronological order, showing NSR and TV):** *The asterisk denotes the current active NSR and Title V permits that have not been superseded.

Permit Number	Issue Date	Action Type	Description of Action (Changes)
0733M15R1	12/24/2014	Technical Revision	(1) Installation of a new 30-pallet sterilization chamber (Chamber 14), including associated process emissions from a new vacuum pump and chamber back vent. The vacuum pump is rated at 550 cfm and will exhaust process emissions from the new chamber directly to the facility's existing Ceilcote scrubber system. The Ceilcote system control efficiency for the new vacuum pump will be $\geq$ 99.3%. The chamber back vent consists of residual Ethylene Oxide (EO) or Propylene Oxide (PO) process emissions produced at the conclusion of each chamber sterilization cycle. The new Chamber 14 back vent will exhaust to the facility's existing Donaldson catalytic oxidizer system via an existing inlet duct. The Donaldson system control efficiency for the Chamber 14 back vent will be $\geq$ 99%. (2) Increasing the facility's cap on the usage of EO or PO by 20% to accommodate the new chamber mentioned above. The 20% increase will revise the EO/PO usage caps to: 1,692,000 pounds /year; 5880 pounds /day; and 1,790 pounds/hour. (3) Rerouting the facility's remaining nine (9) back vent emissions which currently are uncontrolled, to the existing Donaldson catalytic oxidizer for emissions treatment. (Note: The back vents for Chambers 8, 9, 10 and 13 were re-routed to the Donaldson system in 2013. This request entails rerouting back vents for Chambers 1, 2, 3, 4, 5, 6, 7, 11 and 12.) This change will result in all chamber back vents receiving emissions treatment to a minimum control efficiency of 99%. (4) Updating equipment descriptions in the current permit (shown in Table 104) for several listed emission sources. These revisions pertain only to "like-for-like" equipment replacements made in recent years. The new equipment has the same capacity and/or level of emissions as the replaced equipment.

Permit Number	Issue Date	Action Type	Description of Action (Changes)
0733M15*	6/13/2013	Tech & reinstatement of old Permit	This application is submitted to request several things. • Reinstatement of the former NSP Permit (NSR Permit # 0733-M12-R1) issued to the facility on May 16, 2007. • Withdrawal of the No Permit Required determination (NPR # 0733M13) issued to the facility on January 28, 2010. • Deactivation of the Notice of Intent letter (NOI # 0733-M14) issued to the facility on February 5, 2013 regarding installation of a replacement 9 MM Btu/hr natural gas boiler. • Technical Permit revisions to the reinstated NSR permit as allowed under 20.2.72.219.B.1.b NMAC to reflect modifications that occurred to the facility since the previous NSR permit was issued in May 2007. These modifications include: ▪ 1) establishing new backvent emission sources for Chambers 8, 9, and 10; ▪ 2) consolidating and expanding several of the facility's aeration cells/rooms to create a new aeration room designated as AR-2; and ▪ 3) imposing a facility-wide total cap on natural gas-fired boiler capacity equal to 18 MM Btu/hr. Incorporating technical permit revisions in the reinstated NSR permit to: • 1) accommodate the planned re-routing of four (4) chamber backvent emission sources to the facility's existing catalytic oxidizer emission control system • 2) accommodate the planned consolidation and expansion of three existing aeration cells (AC 13-15, AC 16-18, AC 19-21) and one aeration room (AR-1) into one large aeration room and expanding the footprint of the consolidated area. Both projects are scheduled to occur in the spring of 2013, and • 3) imposing a higher control efficiency of 99.3% on the facility's wet scrubber system (CD-1 or CD-2).
0733M14	2013	NOI	Add a boiler and change from an NPR to an NOI because VOC emissions are greater than 10 tpy, but less than 100 tpy.
0733M13		NPR	

Permit Number	Issue Date	Action Type	Description of Action (Changes)
0733-M12-R1		Technical Revision	Sterigenics is proposing to modify the existing footprint of the aeration room to accommodate additional product. Although the aeration room will be able to aerate more product for a given cycle, the facility is still limited to the amount of ethylene oxide used on an hourly, daily, and monthly rolling 12-month total, and is still required to meet the standards of 40 CFR 63 Subpart O. The standard for an aeration room vent is 1 ppm max outlet concentration or 99% emission reduction. The exhaust flow from the modified aeration room will increase from 6000 cfm to 10,000 cfm. The combined exhaust from the aeration cells (AC 1 – 21) and the aeration room will be 17,000 cfm. The capacity of the catalytic oxidizer controlling these sources is 20,000 cfm, so its capacity will not be exceeded. Other than the exhaust rate of the aeration room, no other changes are required in the permit.
0733-M12	03/05/07	Significant Revision	Add sterilization chamber S13 and associated back vent.
0733-M11	08/28/06	Significant Revision	The intent of this modification is to correct the specification data for existing boilers B1 – B3. There will be a change in permitted emissions as a result of this modification resulting in total increases of 1.0 ton NO_X/yr and 1.3 tons CO/yr.
733M10R1	12/21/06	Technical Revision	This modification consists of replacing Monitoring requirements for Unit CD-2 and the addition of one (1) aeration room (Unit AR 01). Ceilcote Air Pollution Control is the manufacturer of acid scrubber the facility uses to control EO and was contacted by Sterigenics to obtain the manufacturers specifications for operating the unit. Sterigenics wanted to update these parameters in order to obtain the optimal performance and efficiency of the Ceilcote unit. Specifically, Sterigenics wanted to make corrections to the monitoring of the maximum gas inlet temperature, the minimum liquid flow rate to tower, and the maximum liquid pH. All three of the corrections to the above parameters were supported by Ceilcote and have been modified by this Technical Revision. The addition of the aeration room will not cause an increase in allowable emissions as there is not an increase in the throughput of loads to be sterilized or charge rate of the EO. The addition of the unit was necessary to provide increased aeration capacity at the facility.
733M10	12/5/05	Significant Revision	Increase the EO charge rate, add S-11, S-12, and back vent 12

Permit Number	Issue Date	Action Type	Description of Action (Changes)
733M9	11/30/04	Significant Revision	Replacement of Acid-Water Scrubber
733M8	7/2/04	Significant Revision	Addition of Chamber 10
733M7	12/10/02	Significant Revision	Addition of Chamber 8 & 9
733M6	1/29/97	Significant Revision	Addition of Chamber 7, Aeration 20 & 21
733M5	4/15/94	Significant Revision	Addition of Chamber 19
733M4	3/8/92	Significant Revision	Revised EtO charge rate
733M3	8/13/90	Significant Revision	Catalytic Oxidizer Required
733M2	6/21/90	Significant Revision	Revised Safe Cell Requirements
733M1	4/4/90	Significant Revision	Safe Cell Installation
733	4/11/89	Regular - New	None

7.0 **Public Response/Concerns:** As of December 10, 2014 this permit writer is not aware of any public comment or concern.

8.0 **Compliance Testing:** No compliance tests required for this permit revision.

9.0 Startup and Shutdown:

A. If applicable, did the applicant indicate that a startup, shutdown, and emergency operational plan was developed in accordance with 20.2.70.300.D(5)(g) NMAC? Yes
B. If applicable, did the applicant indicate that a malfunction, startup, or shutdown operational plan was developed in accordance with 20.2.72.203.A.5 NMAC?
C. Did the applicant indicate that a startup, shutdown, and scheduled maintenance plan was developed and implemented in accordance with 20.2.7.14.A and B NMAC?
D. Were emissions from startup, shutdown, and scheduled maintenance operations calculated and included in the emission tables?

10.0 **Compliance and Enforcement Status [Title V only]: N/A**

11.0 **Modeling:** Not required for this revision.

12.0 **State Regulatory Analysis(NMAC/AQCR):**

20 NMAC	Title	Applies (Y/N)	Comments
2.1	GENERAL PROVISIONS	Yes	The facility is subject to Title 20 Environmental Protection Chapter 2 Air Quality of the New Mexico Administrative Code so is subject to Part 1 General Provisions, Update to Section 116 of regulation for Significant figures & rounding. Applicable with no permitting requirements.
2.3	Ambient Air Quality Standards	Yes	20.2.3 NMAC is a SIP approved regulation that limits the maximum allowable concentration of Total Suspended Particulates, Sulfur Compounds, Carbon Monoxide and Nitrogen Dioxide. 20.2.3.9 NMAC, LIMITATION OF APPLICABILITY TO 20.2.70 NMAC. The requirements of this part are not applicable requirements under 20.2.70 NMAC, as defined by that part. This section does not limit the applicability of this part to sources required to obtain a permit under 20.2.72 NMAC, nor does it limit which terms and conditions of permits issued pursuant to 20.2.72 NMAC are applicable requirements for permits issued pursuant to 20.2.70 NMAC.
2.7	Excess Emissions	Yes	Applies to all facilities' sources
2.61	Smoke and Visible Emissions	Yes	The heater(s) and CD3 are Stationary Combustion Equipment.
2.70	Operating Permits	No	PTE < 100 tpy and not a major source of HAPs
2.72	Construction Permits	No &Yes	The PER emissions are less than 25 tpy of any single regulated pollutant and VOC, however the company requested that the permit be reinstated.
2.73	NOI & Emissions Inventory Requirements	Yes	Applicable to all facilities that require a permit. PER ≥ 10 tpy for a criteria pollutant
2.75	Construction Permit Fees	Yes	This facility is subject to 20.2.72 NMAC
2.77	New Source Performance	No	
2.79	Permits – Nonattainment Areas	No	This facility is not located in a non-attainment area. Non-attainment Link
2.82	MACT Standards for Source Categories of HAPs	YES	This regulation applies to all sources emitting hazardous air pollutants, which are subject to the requirements of 40 CFR Part 63, as amended through January 31, 2009 and 40 CFR 63 Subpart A and O apply. This facility emits 8.8 tpy total HAPS.

13.0 Federal Regulatory Analysis:

Air Programs Subchapter C (40 CFR 50)	National Primary and Secondary Ambient Air Quality Standards	Applies (Y/N)	Comments

C	Federal Ambient Air Quality Standards	Y	Independent of permit applicability; applies to all sources of emissions for which there is a Federal Ambient Air Quality Standard.

NSPS Subpart (40 CFR 60)	Title	Applies (Y/N)	Comments
A	General Provisions	No	Applies if any other subpart applies and none apply.

NESHAP Subpart (40 CFR 61)	Title	Applies (Y/N)	Comments
A	General Provisions	No	Applies if any other subpart applies and none apply.

MACT Subpart (40 CFR 63)	Title	Applies (Y/N)	Comments
A	General Provisions	Yes	Applies if any other subpart applies and Subparts A and O apply.
40 CFR 63 Subpart DDDDD	National Emission Standards for Hazardous Air Pollutants for Industrial,	No	Not a Major source of HAPs
40 CFR 63, Subpart O	Ethylene Oxide Emissions Standards for Sterilization Facilities	Yes	This facility uses more than 1 ton of EO.

14.0 **Permit specialist's notes to other NSR or Title V permitting staff concerning changes and updates to permit conditions.**

A.

B.

New Mexico
ENVIRONMENT DEPARTMENT

525 Camino de los Marquez, Suite 1
Santa Fe, NM 87505
Phone (505) 476-4300
Fax (505) 476-4375
www.nmenv.state.nm.us

SUSANA MARTINEZ
GOVERNOR

JOHN A. SANCHEZ
LIEUTENANT GOVERNOR

RYAN FLYNN
CABINET SECRETARY

BUTCH TONGATE
DEPUTY SECRETARY

AIR QUALITY BUREAU
NEW SOURCE REVIEW PERMIT
Issued under 20.2.72 NMAC

Certified Mail No: 7005 1820 0001 5773 4411
Return Receipt Requested

NSR Permit No:	0733-M15-R1
Facility Name:	Sterigenics-Santa Teresa, NM
Permittee Name:	Sterigenics US., LLC
Mailing Address:	2015 Spring Road, Suite 650 Oak Brook, IL 60523
TEMPO/IDEA ID No:	127-PRN20140001
AIRS No:	35-013-0007
Permitting Action:	Technical Permit Revision
Source Classification:	HAP and VOC Synthetic Minor
Facility Location:	31°51'38" N and 106°41'17" W
County:	Dona Ana
Air Quality Bureau Contact	Rhonda Trujillo
Main AQB Phone No.	(505) 476-4300

Richard L. Goodyear, PE
Bureau Chief
Air Quality Bureau

DEC 23 2014
Date

Template version: 10/30/14

TABLE OF CONTENTS

PART A FACILITY SPECIFIC REQUIREMENTS

A100 Introduction

A. This permit, NSR 0733-M15-R1, supersedes all portions of Air Quality Permit 0733-M15, issued June 13, 2013, except the portion requiring compliance tests. Compliance test conditions from previous permits, if not completed, are still in effect, in addition to compliance test requirements contained in this permit.

B. Fee Requirement: This permit is not effective until the Department receives the permit fee specified in the attached invoice. Pursuant to 20.2.75.12 NMAC, the permittee shall pay this invoice no later than thirty (30) days after the permit issue date (invoicing), unless the Department has granted an extension. The permit fee must be paid by this date regardless of the permittee's intended use or non-use of the permit or of the Department's cancellation of the permit. The permittee's failure to pay this fee when due will automatically void the permit and the Department may initiate enforcement action to collect the fee and assess a civil penalty for non-payment. The permittee shall not construct the new equipment in Table 104 before the date that the Department receives the permit fee in full. The Department may initiate enforcement action for injunctive relief and civil penalties for any construction or operation specified in this technical revision, 0733M15R1, if the permit fee is not paid by the due date.

A101 Permit Duration (expiration)

A. The term of this permit is permanent unless withdrawn or cancelled by the Department.

A102 Facility: Description

A. The function of the facility is to sterilize medical devices and food products by exposure to ethylene oxide and propylene oxide gases.

B. This facility is located approximately 2 miles northwest of Santa Teresa, New Mexico in Dona Ana County.

C. This modification consists of:

(1) Installation of a new 30-pallet sterilization chamber (Chamber 14), including associated process emissions from a new vacuum pump and chamber back vent. The vacuum pump is rated at 550 cfm and will exhaust process emissions from the new chamber directly to the facility's existing Ceilcote scrubber system. The Ceilcote system control efficiency for the new vacuum pump will be $\geq$ 99.3%. The chamber backvent consists of residual Ethylene Oxide (EO) or Propylene Oxide (PO) process emissions produced at the conclusion of each chamber sterilization cycle. The new Chamber 14 backvent will exhaust to the facility's existing Donaldson catalytic oxidizer system via an existing inlet duct. The Donaldson system control efficiency for the Chamber 14 backvent will be $\geq$ 99%.

(2) Increasing the facility's cap on the usage of EO or PO by 20% to accommodate the new chamber mentioned above. The 20% increase will revise the EO/PO usage caps to: 1,692,000 lbs/year and 1,790 lbs/hour.

(3) Rerouting the facility's remaining nine (9) backvent emissions which currently are uncontrolled, to the existing Donaldson catalytic oxidizer for emissions treatment. (Note: The backvents for Chambers 8, 9, 10 and 13 were re-routed to the Donaldson system in 2013. This request entails rerouting backvents for Chambers 1, 2, 3, 4, 5, 6, 7, 11 and 12.) This change will result in all chamber backvents receiving emissions treatment to a minimum control efficiency of 99%.

(4) Updating equipment descriptions in the current permit (shown in Table 104) for several listed emission sources. These revisions pertain only to "like-for-like" equipment replacements made in recent years. The new equipment has the same capacity and/or level of emissions as the replaced equipment.

D. Table 102.A and Table 102.B show the total potential emissions from this facility for information only, not an enforceable condition, excluding exempt sources or activities.

Table 102.A: Total Potential Pollutant Emissions from Entire Facility

Pollutant	Emissions (tons per year)
Nitrogen Oxides (NOx)	9.6
Carbon Monoxide (CO)	8.0
Volatile Organic Compounds (VOC) *	6.6
Sulfur Dioxide (SO_2)	<1
Particulate Matter less than 10 microns (PM_{10})	<1

Table 102.B: Total Potential HAP Emissions from Entire Facility

Pollutant	Emissions (tons per year)
Ethylene Oxide	6.1
Propylene Oxide	
Total HAPs**	6.1

* HAP emissions are already included in the VOC emission total.

** The total HAP emissions may not agree with the sum of individual HAPs because only individual HAPs greater than 1.0 tons per year are listed here.

A103 Facility: Applicable Regulations

A. The permittee shall comply with all applicable sections of the requirements listed in Table 103.A.

Table 103.A: Applicable Requirements

Applicable Requirements	Federally Enforceable	Unit No.
20.2.1 NMAC General Provisions	X	Entire Facility
20.2.3 NMAC Ambient Air Quality Standards	X	Entire Facility
20.2.7 NMAC Excess Emissions	X	Entire Facility
20.2.61 NMAC Smoke and Visible Emissions	X	Bx and CD3
20.2.72 NMAC Construction Permit	X	Entire Facility
20.2.73 NMAC Notice of Intent and Emissions Inventory Requirements	X	Entire Facility
20.2.75 NMAC Construction Permit Fees	X	Entire Facility
20.2.82 NMAC MACT Standards for Source Categories of HAPS	X	Entire Facility
40 CFR 50 National Ambient Air Quality Standards	X	Entire Facility
40 CFR 63, Subpart A, General Provisions	X	Sterilization Equipment
40 CFR 63, Subpart O Ethylene Oxide Emissions Standards for Sterilization Facilities	X	Sterilization Equipment

A104 Facility: Regulated Sources

A. Table 104 lists the emission units authorized for this facility. Emission units identified as exempt activities (as defined in 20.2.72.202 NMAC) and/or equipment not regulated pursuant to the Act are not included.

Table 104: Regulated Sources List

Unit No.	Source Description	Make & Model No.	Serial No.	Capacity	Mfr. Date	Status	Controls
S-1	Sterilizer #1 Vacuum Pump	Dekker DV02516 DA2	050926G03	250 cfm	2006	Existing	Controlled by Acid-Water Scrubber (Unit CD-2 or CD-1) at 99.3% reduction efficiency
S-2	Sterilizer #2 Vacuum Pump	Dekker DV02516 DA2	050725G07	250 cfm	2006	Existing	
S-3	Sterilizer #3 Vacuum Pump	Dekker DV0251B DA3	060920G01	250 cfm	TBD	Replacement Unit	
S-4	Sterilizer #4 Vacuum Pump	Dekker DV025OB DA2	12005	250 cfm	TBD	Replacement Unit	
S-5	Sterilizer #5 Vacuum Pump	Dekker DV0251B DA2	060610G03	250 cfm	TBD	Replacement Unit	
S-6	Sterilizer #6 Vacuum Pump	Dekker DV0251B DA3	070129G03	250 cfm	TBD	Replacement Unit	
S-7	Sterilizer #7 Vacuum Pump	Dekker DV0550B KA2	070323G11	550 cfm	TBD	Replacement Unit	
S-8	Sterilizer #8 Vacuum Pumps for 30 Pallet Chamber	Dekker PUMP A&B DV0550B KA3	C02373602/C 02373601	2 @ 550 cfm	TBD	Replacement Unit	
S-9	Sterilizer #9 Vacuum Pumps for 30 Pallet Chamber	Dekker DV0550B KA3/ DV0550B-KA2	060427G05/ C02373609	2 @ 550 cfm	TBD	Replacement Unit	
S-10	Sterilizer #10 Vacuum Pumps for 30 Pallet Chamber	Dekker DVB0550B KA2	071031G06	550 cfm	TBD	Replacement Unit	
S-11	Sterilizer #11 Vacuum Pump for 15 pallet chamber	Dekker DV0550B KA2	050628G02	550 cfm	TBD	Replacement Unit	
S-12	Sterilizer #12 Vacuum Pump for 30 pallet chamber	Sterling SIHI LEHA 900 AB	BFK4SP	550 cfm	2006	Existing	
S-13	Sterilizer #13 Vacuum Pump for 30 Pallet Chamber	Dekker DVO550-KA2	O61031G10	550 cfm	2007	New 2007	

Unit No.	Source Description	Make & Model No.	Serial No.	Capacity	Mfr. Date	Status	Controls
S-14	Sterilizer #14 Vacuum Pump for 30 Pallet Chamber	TBD	TBD	TBD	TBD	TBD	Controlled by Catalytic Oxidizer (Unit CD-3) at 99% reduction efficiency.
AR 8	Aeration Room 8	Blower	--	9000 cfm	2006	Modified 2007	
AR09	Aeration Room 9	Blower	--	6000 cfm	2010	Modified 2013	
BV-1	Back Vent Exhaust for S-1	Captive Air BI18CARM	455172	3,000 cfm	1986	To be Modified	
BV-2	Back Vent Exhaust for S-2	Captive Air BI18CARM	404418	3,000 cfm	1986	To be Modified	
BV-3	Back Vent Exhaust for S-3	Dayton UK	D2C799A	1,800 cfm	1986	To be Modified	
BV-4	Back Vent Exhaust for S-4	Dayton UK	2C799A	1,800 cfm	1986	To be Modified	
BV-5	Back Vent Exhaust for S-5	Dayton UK	13C074A	1,800 cfm	1986	To be Modified	
BV-6	Back Vent Exhaust for S-6	Dayton UK	D3C074A	1,800 cfm	1986	To be Modified	
BV-7	Back Vent Exhaust for S-7	Dayton UK	10C074A	1,800 cfm	1995	To be Modified	
BV-11	Back Vent Exhaust for S-11	Greenheck 12-BISW-41-10-11	05L11546	1,800 cfm	2005	To be Modified	
BV-12	Back Vent Exhaust for S-12	Greenheck 12-BISW-41-10-11	5647269-12982637	2,000 cfm	3/28/07	To be Modified	
BV-8	Back Vent Exhaust for S-8	Greenheck 12-BISW41-X-10-11	118657780909	1800 cfm	3/16/10	New 2013	
BV-9	Back Vent Exhaust for S-9	Greenheck 12-BISW41-10-11	123271141102	1800 cfm	3/08/11	New 2013	
BV-10	Back Vent Exhaust for S-10	Greenheck 12-BISW41-X-10-11	118724370909	1800 cfm	2/17/10	New 2013	
BV-13	Back Vent Exhaust for S-13	Greenheck 12-BISW-41	07B02982	1,800 cfm	8/13/07	New 2013	
BV-14	Back Vent Exhaust for S-14	TBD	TBD	TBD	TBD	TBD	

Unit No.	Source Description	Make & Model No.	Serial No.	Capacity	Mfr. Date	Status	Controls
CD-1	Acid-Water Scrubber	Deoxx 88-485	None	600 cfm	1989	Existing	Back-up for CD-2
CD-2	Acid-Water Scrubber	Ceilcote SPT-54-240	81318	2500 cfm	2004	Existing	Controls S-1 to S-14
CD-3	Catalytic Oxidizer	Donaldson 20,000 AG EtO Abator	None	20,000 cfm	1991	Existing	Controls AR 08, AR 09, BV 1-14
Bx	Any combination of natural gas boilers not to exceed a manufactures energy input rating of 18 MM Btu/hr	Various	Various	18 MM Btu/hr (Combined Max)	N/A	N/A	N/A

1. All TBD (to be determined) units and like-kind engine replacements must be evaluated for applicability to NSPS and NESHAP requirements.

A105 Facility: Control Equipment

A. Table 105 lists all the pollution control equipment required for this facility. Each emission point is identified by the same number that was assigned to it in the permit application.

Table 105: Control Equipment List:

Control Equipment Unit No.	Control Description	Pollutant being controlled	Control for Unit Number(s)[1]
CD-1	Deoxx Acid-Water Scrubber System	Ethylene Oxide, Propylene Oxide	S-1 – S-14, (Back-up to CD-2)
CD-2	Ceilcote Acid-Water Scrubber System	Ethylene Oxide, Propylene Oxide	S-1- S-14
CD-3	Donaldson 20,000 AG EtO Abator	Ethylene Oxide, Propylene Oxide	AR-08, AR-09, BV-1 – BV-14

1. Control for unit number refers to a unit number from the Regulated Equipment List

A106 Facility: Allowable Emissions

A. The following Section lists the emission units and their allowable emission limits. (40 CFR 50, 40 CFR 63, Subparts A and O, 20.2.72.210.A and B.1 NMAC).

Table 106.A: Allowable Emissions

Unit No.	NO_x[1] pph	NO_x[1] tpy	CO pph	CO tpy	VOC pph	VOC tpy	EO or PO pph	EO or PO tpy
CD-1 or CD-2	-	-	-	-	*	5.7	*	5.7
CD-3	<	1.7	<	1.4	<	<	0.9	0.4

1 Nitrogen dioxide emissions include all oxides of nitrogen expressed as NO_2

2 "-" indicates the application represented emissions of this pollutant are not expected.
"<" indicates the application represented uncontrolled emissions are less than 1.0 pph or 1.0 tpy for this pollutant. Allowable limits are not imposed on this level of emissions, except for flares and pollutants with controls.
"*" indicates hourly emission limits are not appropriate for this operating situation.

A107 Facility: Allowable Startup, Shutdown, & Maintenance (SSM) and Malfunction Emissions

A. Separate allowable SSM emission limits are not required for this facility since the SSM emissions are predicted to be less than the limits established in Table 106A. The permittee shall maintain records in accordance with Condition B109.C.

A108 Facility: Allowable Operations

A. This facility is authorized for continuous operation. Monitoring, recordkeeping, and reporting are not required to demonstrate compliance with continuous hours of operation

B. Propylene oxide (PO) may be substituted for ethylene oxide (EO), but the combined maximum charges are limited to the charge rate(s) specified in Condition A108.C and the PO emission shall be routed through the same control equipment as the EO emissions.

C. Ethylene Oxide and Propylene Oxide Charging Rates

Requirement: The combined maximum ethylene oxide gas charge rate(s) to the sterilizer chambers (Units S-1 to S-14) shall not exceed the following limits: (a) 1,790 lbs per hour, hourly average and averaged over a 24-hour period, (b) 1,692,000 lbs per 12 month period, calculated as a monthly rolling 12-month total.
Monitoring: Hourly, the permittee shall monitor the following: (1) EO or PO charge rates for each of the sterilization chambers (Units S-1 to S-14).
Recordkeeping: Records shall include:

(1) Date; (2) EO or PO pounds per hour averaged over a 24 hour period; (3) EO or PO pounds per 12 month period, calculated as a monthly rolling 12-month total.
Reporting: The permittee shall report in accordance with Section B110.

A109 Facility: Reporting Schedules – Not Applicable

A110 Facility: Fuel Sulfur Requirements

A. Fuel and Fuel Sulfur Requirements (CD3 and Bx)

Requirement: All combustion emission units shall combust only natural gas containing no more than 5.0 grains of total sulfur per 100 dry standard cubic feet
Monitoring: None
Recordkeeping: The permittee shall demonstrate compliance with the natural gas or fuel oil limit on total sulfur content by maintaining records of a current, valid purchase contract, tariff sheet or transportation contract for the gaseous or liquid fuel, or fuel gas analysis, specifying the allowable limit or less.
Reporting: The permittee shall report in accordance with Section B110.

A111 Facility: 20.2.61 NMAC Opacity

A. 20.2.61 NMAC Opacity Limit (Units CD3 and Bx)

Requirement: Visible emissions from all stationary combustion emission stacks shall not equal or exceed an opacity of 20 percent.
Monitoring: Use of natural gas fuel constitutes compliance with 20.2.61 NMAC unless opacity equals or exceeds 20% averaged over a 10-minute period. When any visible emissions are observed at or above 20% opacity, during steady state operation, opacity shall be measured over a 10-minute period, in accordance with the procedures at 40 CFR 60, Appendix A, Method 9 as required by 20.2.61.114 NMAC
Recordkeeping: The permittee shall record the opacity measures with the corresponding opacity readings in accordance with Method 9 in 40 CFR 60, Appendix A.
Reporting: The permittee shall report in accordance with Section B110.

A112 Facility: Haul Roads – Not Applicable

A113 Facility: Initial Location Requirements – Not Applicable

A114 Facility: Relocation Requirements

A. This facility may not be relocated.

A115 Alternative Operating Scenario – Not required

A116 Compliance Plan – Not Required

A117 Reducing Facility Emissions

A. Within 60 days of permit issuance, the permittee shall come into compliance with the emissions limits in this permit NSR (0733M15R1) by permanently ducting the remaining back vents (BV 1-7, 11, 12, and 14) to the Donaldson catalytic oxidizer.

A200 Oil and Gas Industry – Not Required

A300 Construction Industry – Aggregate – Not Required

A400 Construction Industry – Asphalt – Not Required

A500 Construction Industry – Concrete

A600 Power Generation Industry – Not Required

A700 Solid Waste Disposal (Landfills) Industry– Not Required

STERILIZATION FACILITIES INTRODUCTION

A800 Sterilization Facilities Introduction

A. 40 CFR 63 Subpart O: Ethylene Oxide Emissions Standards for Sterilization Facilities

Requirement: This facility is subject to 40 CFR 63, Subparts A and O and shall comply with all applicable requirements of the regulation.
Monitoring: The permittee shall comply with all applicable monitoring requirements of 40

CFR 63, Subparts A and O.
Recordkeeping: The permittee shall comply with all applicable recordkeeping requirements of 40 CFR 63, Subparts A and O.
Reporting: The permittee shall comply with all applicable recordkeeping requirements of 40 CFR 63, Subparts A and O.

B. Oil Seals

Requirement: All pumps in contact with EO or PO shall have closed-loop oil seals. All oil seals shall be maintained to ensure integrity.
Monitoring: The permittee shall inspect the oil seals weekly to ensure proper operations.
Recordkeeping: The permittee shall keep records of the required monitoring and any maintenance performed for EO or PO pump oil seals.
Reporting: The permittee shall report in accordance with Section B110.

C. This Specific Condition (A800.C) supersedes General Condition B111.C.4.:

During emissions tests, pollutant, O_2 concentration and fuel flow rate ***(if fuels are being combusted)*** shall be monitored and recorded. This information shall be included with the test report furnished to the Department.

A801 Sterilization Chamber

A. Sterilization Chambers (S1- S14)

Requirement: The permittee shall not operate any sterilization chambers unless their respective emission control equipment (CD-1 or CD-2) is operated in accordance with manufacturer specifications.
Monitoring: To ensure that the control equipment is operating in accordance with manufacturer specifications, during each day that the sterilization chambers are in use, the permittee shall monitor: (1) The control equipment (CD-1 or CD-2) is operating within the specified parameters in Condition A801.B.
Recordkeeping: The permittee shall maintain records of all daily inspections and record all of the parameters specified in Condition A801.B.
Reporting: The permittee shall report in accordance with Section B110.

B. Acid-Water Scrubber (Unit CD-1 and CD-2)

Requirement: All emissions from Units S-1 – S-14 shall be ducted to the acid-water scrubber CD-1 or CD-2. The permittee shall not operate the units S1- S14 unless the units CD-1 or CD-2 are operating within the specified parameters in this condition. Unit CD-1 may be used as a back-up for Unit CD-2 only when Unit CD-1 has minimum emission reduction efficiency equal to or greater than Unit CD-2. Compliance with this condition demonstrates compliance with the emission limits in Table

106.A for Units CD-1 and CD-2.

Monitoring: Each day, the permittee shall monitor the following parameters for each acid-water scrubber operated in any one calendar day.

A) For CD-1, the permittee shall monitor:

(1) The gas flow rate shall not exceed 600 ACFM @ 90 degrees Fahrenheit;

(2) The liquid temperature shall not exceed 100 degrees Fahrenheit;

(3) The liquid pH shall be $\leq$1; and

(4) The permittee shall monitor the scrubber spray atomizers and ensure that they are operating.

B) For CD-2, the permittee shall monitor:

(1) The gas flow rate shall not exceed 2500 SCFM @ 90 degrees Fahrenheit;

(2) The liquid temperature shall not exceed 120 degrees Fahrenheit;

(3) The liquid pH shall be $\leq$2; and

(4) Daily, the permittee shall monitor the scrubber spray atomizers to ensure that they are operating.

The permittee shall monitor the date, start time, and end time of any downtime and/or maintenance of the units CD-1 and CD-2.

Recordkeeping: Daily, the permittee shall record:

For CD-1 and CD-2, the permittee shall record:

(1) The gas flow rate;

(2) The gas inlet temperature;

(3) The liquid temperature;

(4) The liquid pH; and

(5) The permittee shall record inspections of the scrubber spray atomizers and the results of the inspections.

The permittee shall record the date, start time, and end time of any downtime and/or maintenance of the units CD-1 and CD-2.

Reporting: The permittee shall report in accordance with Section B110.

C. Interlock Systems for Acid-Water Scrubber (Unit CD-1 and CD-2)

Requirement: Units CD-1 and CD-2 shall be equipped with an interlock system to prevent emission discharges to the atmosphere any time the scrubber system experiences a control parameter malfunction. Set points for the sterilization system interlock shall be specified by the control device (CD-1 or CD-2) manufacturer and compliance test results (as applicable) for the unit. Upon request by Department personnel during an onsite inspection, the permittee shall demonstrate to the inspector that the interlock systems are operating within the set points.
Monitoring: The permittee shall monitor: 1. Daily, the permittee shall monitor for the parameters in Condition A 801.B to demonstrate that the interlock system is operating within the set points as specified by the control device (CD-1 or CD-2). 2. The permittee shall monitor each time the Interlock System is used.
Recordkeeping: 1. Daily, the permittee shall record that the interlock system is operating within the set points as specified in Condition A801.B for the control device (CD-1 or CD-2). 2. The permittee shall record each time the Interlock System is used.
Reporting: The permittee shall report in accordance with Section B110.

D. Acid-Water Scrubber Shut down Alarm (Unit CD-1 and CD-2)

Requirement: The shutdown alarm on the acid-water scrubber shall be set to maintain at least a thirty (30) minute average residence time to ensure ethylene glycol formation during the scrubber operation.
Monitoring: The permittee shall monitor the alarm on the acid-water scrubber to ensure at least (30) minutes average residence time, each time the scrubber is operating.
Recordkeeping: The permittee shall record each time the average residence time fails to maintain at least 30 minutes average residence time.
Reporting: The permittee shall report in accordance with Section B110.

A802 Aerating Rooms, Backvents, and Catalytic Oxidizer

A. Operational and Control Requirements for Units AR-08, AR-09, and Units BV1-BV14)

Requirement: A.) All emissions from aeration rooms AR-08 and AR-09 shall be ducted to the catalytic oxidizer (Unit CD-3). Emissions from Units BV1- BV14 shall be vented to (Unit CD-3). B.) All untreated process emissions from the aeration rooms (AR-08 and AR-09) must be isolated and the chamber back vents (BV1- BV14) must not operate whenever the catalytic oxidizer (CD-3) is not within operating temperatures. C.) The permittee shall ensure that a continuous strip chart recorder or data acquisition system

for monitoring the catalytic bed temperature is continuously operated at all times the catalytic control system is in operation. E.) Compliance with this condition demonstrates compliance with the emission limits for Unit CD-3 in Table 106.A.
Monitoring: (1) The permittee shall continuously monitor the temperature at the outlet of the catalyst bed. (2) Monthly, the permittee shall monitor the pressure drop across the catalyst bed. (3) In the event of a malfunction of the continuous recorder, manual temperature recordings of the inlet temperature to the catalyst bed shall be taken hourly. The continuous temperature recorder shall be repaired within seven calendar days. (4) The permittee shall monitor the date, start time, and end time of any downtime and/or maintenance of the unit CD-3.
Recordkeeping: (1) The permittee shall keep a monthly record of the data from the continuous strip chart recorder or data acquisition system for monitoring the catalytic bed temperature. (2) Monthly, the permittee shall record the pressure drop across the catalyst bed. (3) The permittee shall record the date, start time, and end time of any downtime and/or maintenance of the unit CD-3.
Reporting: The permittee shall report in accordance with Section B110.

B. Interlock Systems for Catalytic Oxidizer (Unit CD-3)

Requirement: Unit CD-3 shall be equipped with an interlock system to prevent emission discharges to the atmosphere any time the catalytic system experiences a control parameter malfunction. Set points for the sterilization system interlock shall be specified by the control device, CD-3, manufacturer and compliance test results (as appropriate) for the unit. Upon request by Department personnel during an onsite inspection, the permittee shall demonstrate to the inspector that the interlock systems are operating within the set points.
Monitoring: (1) Daily, the permittee shall monitor (CD-3) operating temperature to ensure it is operating within the temperature set points as specified for the control device (CD-3) from the manufacturer specification sheet and compliance test results (as appropriate). (2) Monthly, the permittee shall monitor the pressure drop across the catalyst bed of (CD-3) and ensure that it meets the manufacturer's specification. (3) The permittee shall monitor each time the Interlock System is used.
Recordkeeping: (1) Daily, the permittee shall record that the interlock system is operating within the temperature set points as specified by the manufacturer specifications and compliance test

results (as appropriate) for the control device (CD-3). (2) Monthly, the permittee shall record the pressure drop across the catalyst bed of (CD-3). (3) The permittee shall record each time the Interlock System is used. (4) The permittee shall maintain a copy of the manufacturer specification sheet on the premises and provide it to the Department's inspector upon request.
Reporting: The permittee shall report in accordance with Section B110.

PART B GENERAL CONDITIONS

B100 Introduction

A. The Department has reviewed the permit application for the proposed construction/modification/revision and has determined that the provisions of the Act and ambient air quality standards will be met. Conditions have been imposed in this permit to assure continued compliance. 20.2.72.210.D NMAC, states that any term or condition imposed by the Department on a permit is enforceable to the same extent as a regulation of the Environmental Improvement Board.

B101 Legal

A. The contents of a permit application specifically identified by the Department shall become the terms and conditions of the permit or permit revision. Unless modified by conditions of this permit, the permittee shall construct or modify and operate the Facility in accordance with all representations of the application and supplemental submittals that the Department relied upon to determine compliance with applicable regulations and ambient air quality standards. If the Department relied on air quality modeling to issue this permit, any change in the parameters used for this modeling shall be submitted to the Department for review. Upon the Department's request, the permittee shall submit additional modeling for review by the Department. Results of that review may require a permit modification. (20.2.72.210.A NMAC)

B. Any future physical changes, changes in the method of operation or changes in restricted area may constitute a modification as defined by 20.2.72 NMAC, Construction Permits. Unless the source or activity is exempt under 20.2.72.202 NMAC, no modification shall begin prior to issuance of a permit. (20.2.72 NMAC Sections 200.A.2 and E, and 210.B.4)

C. Changes in plans, specifications, and other representations stated in the application documents shall not be made if they cause a change in the method of control of emissions or in the character of emissions, will increase the discharge of emissions or affect modeling results. Any such proposed changes shall be submitted as a revision or modification. (20.2.72 NMAC Sections 200.A.2 and E, and 210.B.4)

D. The permittee shall establish and maintain the property's Restricted Area as identified in plot plan submitted with the application. (20.2.72 NMAC Sections 200.A.2 and E, and 210.B.4)

E. Applications for permit revisions and modifications shall be submitted to:

Program Manager, Permits Section
New Mexico Environment Department
Air Quality Bureau
525 Camino de los Marquez, Suite 1
Santa Fe, NM 87505

F. The owner or operator of a source having an excess emission shall, to the extent practicable, operate the source, including associated air pollution control equipment, in a manner consistent with good air pollutant control practices for minimizing emissions. (20.2.7.109 NMAC). The establishment of allowable malfunction emission limits does not supersede this requirement.

B102 Authority

A. This permit is issued pursuant to the Air Quality Control Act (Act) and regulations adopted pursuant to the Act including Title 20, Chapter 2, Part 72 of the New Mexico Administrative Code (NMAC), (20.2.72 NMAC), Construction Permits and is enforceable pursuant to the Act and the air quality control regulations applicable to this source.

B. The Department is the Administrator for 40 CFR Parts 60, 61, and 63 pursuant to the delegation and exceptions of Section 10 of 20.2.77 NMAC (NSPS), 20.2.78 NMAC (NESHAP), and 20.2.82 NMAC (MACT).

B103 Annual Fee

A. The Department will assess an annual fee for this Facility. The regulation 20.2.75 NMAC set the fee amount at $1,500 through 2004 and requires it to be adjusted annually for the Consumer Price Index on January 1. The current fee amount is available by contacting the Department or can be found on the Department's website. The AQB will invoice the permittee for the annual fee amount at the beginning of each calendar year. This fee does not apply to sources which are assessed an annual fee in accordance with 20.2.71 NMAC. For sources that satisfy the definition of "small business" in 20.2.75.7.F NMAC, this annual fee will be divided by two. (20.2.75.11 NMAC)

B. All fees shall be remitted in the form of a corporate check, certified check, or money order made payable to the "NM Environment Department, AQB" mailed to the

address shown on the invoice and shall be accompanied by the remittance slip attached to the invoice.

B104 Appeal Procedures

A. Any person who participated in a permitting action before the Department and who is adversely affected by such permitting action, may file a petition for hearing before the Environmental Improvement Board. The petition shall be made in writing to the Environmental Improvement Board within thirty (30) days from the date notice is given of the Department's action and shall specify the portions of the permitting action to which the petitioner objects, certify that a copy of the petition has been mailed or hand-delivered and attach a copy of the permitting action for which review is sought. Unless a timely request for hearing is made, the decision of the Department shall be final. The petition shall be copied simultaneously to the Department upon receipt of the appeal notice. If the petitioner is not the applicant or permittee, the petitioner shall mail or hand-deliver a copy of the petition to the applicant or permittee. The Department shall certify the administrative record to the board. Petitions for a hearing shall be sent to: (20.2.72.207.F NMAC)

Secretary, New Mexico Environmental Improvement Board
1190 St. Francis Drive, Runnels Bldg. Rm. N2153
Santa Fe, New Mexico 87502

B105 Submittal of Reports and Certifications

A. Stack Test Protocols and Stack Test Reports shall be submitted electronically to Stacktest.AQB@state.nm.us or as directed by the Department.

B. Excess Emission Reports shall be submitted as directed by the Department. (20.2.7.110 NMAC)

C. Routine reports shall be submitted to the mailing address below, or as directed by the Department:

Manager, Compliance and Enforcement Section
New Mexico Environment Department
Air Quality Bureau
525 Camino de los Marquez, Suite 1
Santa Fe, NM 87505

B106 NSPS and/or MACT Startup, Shutdown, and Malfunction Operations

A. If a facility is subject to a NSPS standard in 40 CFR 60, each owner or operator that installs and operates a continuous monitoring device required by a NSPS regulation

shall comply with the excess emissions reporting requirements in accordance with 40 CFR 60.7(c), unless specifically exempted in the applicable subpart.

B. If a facility is subject to a NSPS standard in 40 CFR 60, then in accordance with 40 CFR 60.8(c), emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction shall not be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard.

C. If a facility is subject to a MACT standard in 40 CFR 63, then the facility is subject to the requirement for a Startup, Shutdown and Malfunction Plan (SSM) under 40 CFR 63.6(e)(3), unless specifically exempted in the applicable subpart.

B107 Startup, Shutdown, and Maintenance Operations

A. The establishment of permitted startup, shutdown, and maintenance (SSM) emission limits does not supersede the requirements of 20.2.7.14.A NMAC. Except for operations or equipment subject to Condition B106, the permittee shall establish and implement a plan to minimize emissions during routine or predictable start up, shut down, and scheduled maintenance (SSM work practice plan) and shall operate in accordance with the procedures set forth in the plan. (SSM work practice plan) (20.2.7.14.A NMAC)

B108 General Monitoring Requirements

A. These requirements do not supersede or relax requirements of federal regulations.

B. The following monitoring requirements shall be used to determine compliance with applicable requirements and emission limits. Any sampling, whether by portable analyzer or EPA reference method, that measures an emission rate over the applicable averaging period greater than an emission limit in this permit constitutes noncompliance with this permit. The Department may require, at its discretion, additional tests pursuant to EPA Reference Methods at any time, including when sampling by portable analyzer measures an emission rate greater than an emission limit in this permit; but such requirement shall not be construed as a determination that the sampling by portable analyzer does not establish noncompliance with this permit and shall not stay enforcement of such noncompliance based on the sampling by portable analyzer.

C. If the emission unit is shutdown at the time when periodic monitoring is due to be accomplished, the permittee is not required to restart the unit for the sole purpose of performing the monitoring. Using electronic or written mail, the permittee shall notify the Department's Compliance and Enforcement Section of a delay in emission tests prior to the deadline for accomplishing the tests. Upon recommencing operation, the permittee shall submit any pertinent pre-test notification requirements set forth in the

current version of the Department's Standard Operating Procedures For Use Of Portable Analyzers in Performance Test, and shall accomplish the monitoring.

D. The requirement for monitoring during any monitoring period is based on the percentage of time that the unit has operated. However, to invoke the monitoring period exemption at B108.D(2), hours of operation shall be monitored and recorded.

(1) If the emission unit has operated for more than 25% of a monitoring period, then the permittee shall conduct monitoring during that period.

(2) If the emission unit has operated for 25% or less of a monitoring period then the monitoring is not required. After two successive periods without monitoring, the permittee shall conduct monitoring during the next period regardless of the time operated during that period, except that for any monitoring period in which a unit has operated for less than 10% of the monitoring period, the period will not be considered as one of the two successive periods.

(3) If invoking the monitoring **period** exemption in B108.D(2), the actual operating time of a unit shall not exceed the monitoring period required by this permit before the required monitoring is performed. For example, if the monitoring period is annual, the operating hours of the unit shall not exceed 8760 hours before monitoring is conducted. Regardless of the time that a unit actually operates, a minimum of one of each type of monitoring activity shall be conducted during any five-year period.

E. For all periodic monitoring events, except when a federal or state regulation is more stringent, three test runs shall be conducted at 90% or greater of the unit's capacity as stated in this permit, or in the permit application if not in the permit, and at additional loads when requested by the Department. If the 90% capacity cannot be achieved, the monitoring will be conducted at the maximum achievable load under prevailing operating conditions except when a federal or state regulation requires more restrictive test conditions. The load and the parameters used to calculate it shall be recorded to document operating conditions and shall be included with the monitoring report.

F. When requested by the Department, the permittee shall provide schedules of testing and monitoring activities. Compliance tests from previous NSR and Title V permits may be re-imposed if it is deemed necessary by the Department to determine whether the source is in compliance with applicable regulations or permit conditions.

G. If monitoring is new or is in addition to monitoring imposed by an existing applicable requirement, it shall become effective 120 days after the date of permit issuance. For emission units that have not commenced operation, the associated new or additional monitoring shall not apply until 120 days after the units commence operation. All pre-existing monitoring requirements incorporated in this permit shall continue to apply from the date of permit issuance.

B109 General Recordkeeping Requirements

A. The permittee shall maintain records to assure and verify compliance with the terms and conditions of this permit and any other applicable requirements that become effective after permit issuance. The minimum information to be included in these records is:

(1) equipment identification (include make, model and serial number for all tested equipment and emission controls);

(2) date(s) and time(s) of sampling or measurements;

(3) date(s) analyses were performed;

(4) the qualified entity that performed the analyses;

(5) analytical or test methods used;

(6) results of analyses or tests; and

(7) operating conditions existing at the time of sampling or measurement.

B. Except as provided in the Specific Conditions, records shall be maintained on-site or at the permittee's local business office for a minimum of two (2) years from the time of recording and shall be made available to Department personnel upon request. Sources subject to 20.2.70 NMAC "Operating Permits" shall maintain records on-site for a minimum of five (5) years from the time of recording.

C. Unless otherwise indicated by Specific Conditions, the permittee shall keep the following records for malfunction emissions and routine or predictable emissions during startup, shutdown, and scheduled maintenance (SSM):

(1) The owner or operator of a source subject to a permit shall establish and implement a plan to minimize emissions during routine or predictable startup, shutdown, and scheduled maintenance through work practice standards and good air pollution control practices. This requirement shall not apply to any affected facility defined in and subject to an emissions standard and an equivalent plan under 40 CFR Part 60 (NSPS), 40 CFR Part 63 (MACT), or an equivalent plan under 20.2.72 NMAC - Construction Permits, 20.2.70 NMAC - Operating Permits, 20.2.74 NMAC - Permits - Prevention of Significant Deterioration (PSD), or 20.2.79 NMAC - Permits - Nonattainment Areas. The permittee shall keep records of all sources subject to the plan to minimize emissions during routine or predictable SSM and shall record if the source is subject to an alternative plan and therefore, not subject to the plan requirements under 20.2.7.14.A NMAC.

(2) If the facility has allowable SSM emission limits in this permit, the permittee shall record all SSM events, including the date, the start time, the end time, a description of the event, and a description of the cause of the event. This record also shall include a copy of the manufacturer's, or equivalent, documentation showing that

any maintenance qualified as scheduled. Scheduled maintenance is an activity that occurs at an established frequency pursuant to a written protocol published by the manufacturer or other reliable source. The authorization of allowable SSM emissions does not supersede any applicable federal or state standard. The most stringent requirement applies.

(3) If the facility has allowable malfunction emission limits in this permit, the permittee shall record all malfunction events to be applied against these limits. The permittee shall also include the date, the start time, the end time, and a description of the event. **Malfunction means** any sudden and unavoidable failure of air pollution control equipment or process equipment beyond the control of the owner or operator, including malfunction during startup or shutdown. A failure that is caused entirely or in part by poor maintenance, careless operation, or any other preventable equipment breakdown shall not be considered a malfunction. (20.2.7.7.E NMAC) The authorization of allowable malfunction emissions does not supersede any applicable federal or state standard. The most stringent requirement applies. This authorization only allows the permittee to avoid submitting reports under 20.2.7 NMAC for total annual emissions that are below the authorized malfunction emission limit.

(4) The owner or operator of a source shall meet the operational plan defining the measures to be taken to mitigate source emissions during malfunction, startup or shutdown. (20.2.72.203.A(5) NMAC)

B110 General Reporting Requirements
(20.2.72 NMAC Sections 210 and 212)

A. Records and reports shall be maintained on-site or at the permittee's local business office unless specifically required to be submitted to the Department or EPA by another condition of this permit or by a state or federal regulation. Records for unmanned sites may be kept at the nearest business office.

B. The permittee shall notify the Department's Compliance Reporting Section using the current Submittal Form posted to NMED's Air Quality web site under Compliance and Enforcement/Submittal Forms in writing of, or provide the Department with (20.2.72.212.A and B):

(1) the anticipated date of initial startup of each new or modified source not less than thirty (30) days prior to the date. Notification may occur prior to issuance of the permit, but actual startup shall not occur earlier than the permit issuance date;

(2) after receiving authority to construct, the equipment serial number as provided by the manufacturer or permanently affixed if shop-built and the actual date of initial startup of each new or modified source within fifteen (15) days after the startup date; and

(3) the date when each new or modified emission source reaches the maximum production rate at which it will operate within fifteen (15) days after that date.

C. The permittee shall notify the Department's Permitting Program Manager, in writing of, or provide the Department with (20.2.72.212.C and D):

(1) any change of operators or any equipment substitutions within fifteen (15) days of such change;

(2) any necessary update or correction no more than sixty (60) days after the operator knows or should have known of the condition necessitating the update or correction of the permit.

D. Results of emission tests and monitoring for each pollutant (except opacity) shall be reported in pounds per hour (unless otherwise specified) and tons per year. Opacity shall be reported in percent. The number of significant figures corresponding to the full accuracy inherent in the testing instrument or Method test used to obtain the data shall be used to calculate and report test results in accordance with 20.2.1.116.B and C NMAC. Upon request by the Department, CEMS and other tabular data shall be submitted in editable, MS Excel format.

E. The permittee shall submit reports of excess emissions in accordance with 20.2.7.110.A NMAC.

B111 General Testing Requirements

A. Compliance Tests

(1) Compliance test requirements from previous permits (if any) are still in effect, unless the tests have been satisfactorily completed. Compliance tests may be re-imposed if it is deemed necessary by the Department to determine whether the source is in compliance with applicable regulations or permit conditions. (20.2.72 NMAC Sections 210.C and 213)

(2) Compliance tests shall be conducted within sixty (60) days after the unit(s) achieve the maximum normal production rate. If the maximum normal production rate does not occur within one hundred twenty (120) days of source startup, then the tests must be conducted no later than one hundred eighty (180) days after initial startup of the source.

(3) Unless otherwise indicated by Specific Conditions or regulatory requirements, the default time period for each test run shall be **at least** 60 minutes and each performance test shall consist of three separate runs using the applicable test method. For the purpose of determining compliance with an applicable emission limit, the arithmetic mean of results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of

the sample train, extreme meteorological conditions, or other circumstances, beyond the owner or operator's control, compliance may, upon the Department approval, be determined using the arithmetic mean of the results of the two other runs.

(4) Testing of emissions shall be conducted with the emissions unit operating at 90 to 100 percent of the maximum operating rate allowed by the permit. If it is not possible to test at that rate, the source may test at a lower operating rate, subject to the approval of the Department.

(5) Testing performed at less than 90 percent of permitted capacity will limit emission unit operation to 110 percent of the tested capacity until a new test is conducted.

(6) If conditions change such that unit operation above 110 percent of tested capacity is possible, the source must submit a protocol to the Department within 30 days of such change to conduct a new emissions test.

B. EPA Reference Method Tests

(1) All compliance tests required by this permit, unless otherwise specified by Specific Conditions of this permit, shall be conducted in accordance with the requirements of CFR Title 40, Part 60, Subpart A, General Provisions, and the following EPA Reference Methods as specified by CFR Title 40, Part 60, Appendix A:

(a) Methods 1 through 4 for stack gas flowrate

(b) Method 5 for TSP

(c) Method 6C and 19 for SO_2

(d) Method 7E for NO_X (test results shall be expressed as nitrogen dioxide (NO_2) using a molecular weight of 46 lb/lb-mol in all calculations (each ppm of NO/NO_2 is equivalent to 1.194 x 10-7 lb/SCF)

(e) Method 9 for opacity

(f) Method 10 for CO

(g) Method 19 may be used in lieu of Methods 1-4 for stack gas flowrate upon approval of the Department. A justification for this proposal must be provided along with a contemporaneous fuel gas analysis (preferably on the day of the test) and a recent fuel flow meter calibration certificate (within the most recent quarter).

(h) Method 7E or 20 for Turbines per 60.335 or 60.4400

(i) Method 29 for Metals

(j) Method 201A for filterable PM_{10} and $PM_{2.5}$

(k) Method 202 for condensable PM

(l) Method 320 for organic Hazardous Air Pollutants (HAPs)

(m) Method 25A for VOC reduction efficiency

(n) Method 30B for Mercury

(2) Alternative test method(s) may be used if the Department approves the change

C. Periodic Monitoring and Portable Analyzer Requirements

(1) Periodic emissions tests (periodic monitoring) may be conducted in accordance with EPA Reference Methods or by utilizing a portable analyzer. Periodic monitoring utilizing a portable analyzer shall be conducted in accordance with the requirements of ASTM D 6522-00. However, if a facility has met a previously approved Department criterion for portable analyzers, the analyzer may be operated in accordance with that criterion until it is replaced.

(2) Unless otherwise indicated by Specific Conditions or regulatory requirements, the default time period for each test run shall be **at least** 20 minutes.

Each performance test shall consist of three separate runs. The arithmetic mean of results of the three runs shall be used to determine compliance with the applicable emission limit.

(3) Testing of emissions shall be conducted in accordance with the requirements at Section B108.E.

(4) During emissions tests, pollutant, O_2 concentration and fuel flow rate shall be monitored and recorded. This information shall be included with the test report furnished to the Department.

(5) Pollutant emission rate shall be calculated in accordance with 40 CFR 60, Appendix A, Method 19 utilizing fuel flow rate (scf) and fuel heating value (Btu/scf) obtained during the test.

D. Test Procedures:

(1) The permittee shall notify the Department's Program Manager, Compliance and Enforcement Section at least thirty (30) days before the test date and allow a representative of the Department to be present at the test.

(2) Equipment shall be tested in the "as found" condition. Equipment may not be adjusted or tuned prior to any test for the purpose of lowering emissions, and then returned to previous settings or operating conditions after the test is complete.

(3) Contents of test notifications, protocols and test reports shall conform to the format specified by the Department's Universal Test Notification, Protocol and Report Form and Instructions. Current forms and instructions are posted to NMED's Air Quality web site under Compliance and Enforcement Testing.

(4) The permittee shall provide (a) sampling ports adequate for the test methods applicable to the facility, (b) safe sampling platforms, (c) safe access to sampling platforms and (d) utilities for sampling and testing equipment.

(5) The stack shall be of sufficient height and diameter and the sample ports shall be located so that a representative test of the emissions can be performed in accordance with the requirements of EPA Method 1 or ASTM D 6522-00 as applicable.

(6) Where necessary to prevent cyclonic flow in the stack, flow straighteners shall be installed

(7) Unless otherwise indicated by Specific Conditions or regulatory requirements, test reports shall be submitted to the Department no later than 30 days after completion of the test.

B112 Compliance

A. The Department shall be given the right to enter the facility at all reasonable times to verify the terms and conditions of this permit. Required records shall be organized by date and subject matter and shall at all times be readily available for inspection. The permittee, upon verbal or written request from an authorized representative of the Department who appears at the facility, shall immediately produce for inspection or copying any records required to be maintained at the facility. Upon written request at other times, the permittee shall deliver to the Department paper or electronic copies of any and all required records maintained on site or at an off-site location. Requested records shall be copied and delivered at the permittee's expense within three business days from receipt of request unless the Department allows additional time. Required records may include records required by permit and other information necessary to demonstrate compliance with terms and conditions of this permit. (NMSA 1978, Section 74-2-13)

B. A copy of the most recent permit(s) issued by the Department shall be kept at the permitted facility or (for unmanned sites) at the nearest company office and shall be made available to Department personnel for inspection upon request. (20.2.72.210.B.4 NMAC)

C. Emissions limits associated with the energy input of a Unit, i.e. lb/MMBtu, shall apply at all times unless stated otherwise in a Specific Condition of this permit. The averaging time for each emissions limit, including those based on energy input of a Unit (i.e. lb/MMBtu) is one (1) hour unless stated otherwise in a Specific Condition of this permit or in the applicable requirement that establishes the limit.

B113 Permit Cancellation and Revocation

A. The Department may revoke this permit if the applicant or permittee has knowingly and willfully misrepresented a material fact in the application for the permit. Revocation will be made in writing, and an administrative appeal may be taken to the Secretary of the Department within thirty (30) days. Appeals will be handled in

accordance with the Department's Rules Governing Appeals From Compliance Orders.

B. The Department shall automatically cancel any permit for any source which ceases operation for five (5) years or more, or permanently. Reactivation of any source after the five (5) year period shall require a new permit. (20.2.72 NMAC)

C. The Department may cancel a permit if the construction or modification is not commenced within two (2) years from the date of issuance or if, during the construction or modification, work is suspended for a total of one (1) year. (20.2.72 NMAC)

B114 Notification to Subsequent Owners

A. The permit and conditions apply in the event of any change in control or ownership of the Facility. No permit modification is required in such case. However, in the event of any such change in control or ownership, the permittee shall notify the succeeding owner of the permit and conditions and shall notify the Department's Program Manager, Permits Section of the change in ownership within fifteen (15) days of that change. (20.2.72.212.C NMAC)

B. Any new owner or operator shall notify the Department's Program Manager, Permits Section, within thirty (30) days of assuming ownership, of the new owner's or operator's name and address. (20.2.73.200.E.3 NMAC)

B115 Asbestos Demolition

A. Before any asbestos demolition or renovation work, the permittee shall determine whether 40 CFR 61 Subpart M, National Emissions Standards for Asbestos applies. If required, the permittee shall notify the Department's Program Manager, Compliance and Enforcement Section using forms furnished by the Department.

B116 Short Term Engine Replacement

A. The following Alternative Operating Scenario (AOS) addresses engine breakdown or periodic maintenance and repair, which requires the use of a short term replacement engine. The following requirements do not apply to engines that are exempt per 20.2.72.202.B(3) NMAC. Changes to exempt engines must be reported in accordance with 20.2.72.202.B NMAC. A short term replacement engine may be substituted for any engine allowed by this permit for no more than 120 days in any rolling twelve month period per permitted engine. The compliance demonstrations required as part of this AOS are in addition to any other compliance demonstrations required by this permit.

(1) The permittee may temporarily replace an existing engine that is subject to the emission limits set forth in this permit with another engine regardless of manufacturer, model, and horsepower without modifying this permit. The permittee shall submit written notification to the Department within 15 days of the date of engine substitution according to condition B110.C(1).

(a) The potential emission rates of the replacement engine shall be determined using the replacement engine's manufacturer specifications and shall comply with the existing engine's permitted emission limits.

(b) The direction of the exhaust stack for the replacement engine shall be either vertical or the same direction as for the existing engine. The replacement engine's stack height and flow parameters shall be at least as effective in the dispersion of air pollutants as the modeled stack height and flow parameters for the existing permitted engine. The following equation may be used to show that the replacement engine disperses pollutants as well as the existing engine. The value calculated for the replacement engine on the right side of the equation shall be equal to or greater than the value for the existing engine on the left side of the equation. The permitting page of the Air Quality Bureau website contains a spreadsheet that performs this calculation.

EXISTING ENGINE REPLACMENT ENGINE

$$\frac{[(g) \times (h1)] + [(v1)^2/2] + [(c) \times (T1)]}{q1} <= \frac{[(g) \times (h2)] + [(v2)^2/2] + [(c) \times (T2)]}{q2}$$

Where
g = gravitational constant = 32.2 ft/sec^2
h1 = existing stack height, feet
v1 = exhaust velocity, existing engine, feet per second
c = specific heat of exhaust, 0.28 BTU/lb-degree F
T1 = absolute temperature of exhaust, existing engine = degree F + 460
q1 = permitted allowable emission rate, existing engine, lbs/hour
h2 = replacement stack height, feet
v2 = exhaust velocity, replacement engine, feet per second
T2 = absolute temperature of exhaust, replacement engine = degree F + 460
q2 = manufacturer's potential emission rate, replacement engine, lbs/hour

The permittee shall keep records showing that the replacement engine is at least as effective in the dispersion of air pollutants as the existing engine.

(c) Test measurement of NOx and CO emissions from the temporary replacement engine shall be performed in accordance with Section B111

with the exception of Condition B111A(2) and B111B for EPA Reference Methods Tests or Section B111C for portable analyzer test measurements. Compliance test(s) shall be conducted within fifteen (15) days after the unit begins operation, and records of the results shall be kept according to section B109.B. This test shall be performed even if the engine is removed prior to 15 days on site.

i. These compliance tests are not required for an engine certified under 40CFR60, subparts IIII, or JJJJ, or 40CFR63, subpart ZZZZ if the permittee demonstrates that one of these requirements causes such engine to comply with all emission limits of this permit. The permittee shall submit this demonstration to the Department within 48 hours of placing the new unit into operation. This submittal shall include documentation that the engine is certified, that the engine is within its useful life, as defined and specified in the applicable requirement, and shall include calculations showing that the applicable emissions standards result in compliance with the permit limits.

ii. These compliance tests are not required if a test was conducted by portable analyzer or by EPA Method test (including any required by 40CFR60, subparts IIII and JJJJ and 40CFR63, subpart ZZZZ) within the last 12 months. These previous tests are valid only if conducted at the same or lower elevation as the existing engine location prior to commencing operation as a temporary replacement. A copy of the test results shall be kept according to section B109.B.

(d) Compliance tests for NOx and CO shall be conducted if requested by the Department in writing to determine whether the replacement engine is in compliance with applicable regulations or permit conditions.

(e) Upon determining that emissions data developed according to B116.A.1(c) fail to indicate compliance with either the NOx or CO emission limits, the permittee shall notify the Department within 48 hours. Also within that time, the permittee shall implement one of the following corrective actions:

i. The engine shall be adjusted to reduce NOx and CO emissions and tested per B116.A.1(c) to demonstrate compliance with permit limits.

ii. The engine shall discontinue operation or be replaced with a different unit.

(2) Short term replacement engines, whether of the same manufacturer, model, and horsepower, or of a different manufacturer, model, or horsepower, are subject to all federal and state applicable requirements, regardless of whether they are set forth

in this permit (including monitoring and recordkeeping), and shall be subject to any shield afforded by this permit.

(3) The permittee shall maintain a contemporaneous record documenting the unit number, manufacturer, model number, horsepower, emission factors, emission test results, and serial number of any existing engine that is replaced, and the replacement engine. Additionally, the record shall document the replacement duration in days, and the beginning and end dates of the short term engine replacement.

(4) The permittee shall maintain records of a regulatory applicability determination for each replacement engine (including 40CFR60, subparts IIII and JJJJ and 40CFR63, subpart ZZZZ) and shall comply with all associated regulatory requirements.

B. Additional requirements for replacement of engines at sources that are major as defined in regulation 20.2.74 NMAC, Permits – Prevention of Significant Deterioration, section 7.AG. For sources that are major under PSD, the total cumulative operating hours of the replacement engine shall be limited using the following procedure:

(1) Daily, the actual emissions from the replacement engine(s) of each pollutant regulated by this permit for the existing engine shall be calculated and recorded.

(2) The sum of the total actual emissions since the commencement of operation of the replacement engine(s) shall not equal or exceed the significant emission rates in Table 2 of 20.2.74 NMAC, section 502 for the time that the replacement engine is located at the facility.

C. All records required by this section shall be kept according to section B109.

PART C MISCELLANEOUS

C100 Supporting On-Line Documents

A. Copies of the following documents can be downloaded from NMED's web site under Compliance and Enforcement or requested from the Bureau.

(1) Excess Emission Form (for reporting deviations and emergencies)

(2) Universal Stack Test Notification, Protocol and Report Form and Instructions

(3) SOP for Use of Portable Analyzers in Performance Tests

C101 Definitions

A. **"Daylight"** is defined as the time period between sunrise and sunset, as defined by the Astronomical Applications Department of the U.S. Naval Observatory. (Data for one day or a table of sunrise/sunset for an entire year can be obtained at http://aa.usno.navy.mil/. Alternatively, these times can be obtained from a Farmer's Almanac or from http://www.almanac.com/rise/).

B. **"Exempt Sources"** and **"Exempt Activities"** is defined as those sources or activities that are exempted in accordance with 20.2.72.202 NMAC. Note; exemptions are only valid for most 20.2.72 NMAC permitting actions.

C. **"Fugitive Emission"** means those emissions which could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening.

D. **"Insignificant Activities"** means those activities which have been listed by the department and approved by the administrator as insignificant on the basis of size, emissions or production rate. Note; insignificant activities are only valid for 20.2.70 NMAC permitting actions.

E. **"Malfunction"** for the requirements under 20.2.7 NMAC, means any sudden and unavoidable failure of air pollution control equipment or process equipment beyond the control of the owner or operator, including malfunction during startup or shutdown. A failure that is caused entirely or in part by poor maintenance, careless operation, or any other preventable equipment breakdown shall not be considered a malfunction. (20.2.7.7.E NMAC)

F. **"Natural Gas"** is defined as a naturally occurring fluid mixture of hydrocarbons that contains 20.0 grains or less of total sulfur per 100 standard cubic feet (SCF) and is either composed of at least 70% methane by volume or has a gross calorific value of between 950 and 1100 Btu per standard cubic foot. (40 CFR 60.631)

G. **"Natural Gas Liquids"** means the hydrocarbons, such as ethane, propane, butane, and pentane, that are extracted from field gas. (40 CFR 60.631)

H. **"National Ambient air Quality Standards"** means, unless otherwise modified, the primary (health-related) and secondary (welfare-based) federal ambient air quality standards promulgated by the US EPA pursuant to Section 109 of the Federal Act.

I. **"Night"** is the time period between sunset and sunrise, as defined by the Astronomical Applications Department of the U.S. Naval Observatory. (Data for one day or a table of sunrise/sunset for an entire year can be obtained at http://aa.usno.navy.mil/. Alternatively, these times can be obtained from a Farmer's Almanac or from http://www.almanac.com/rise/).

J. **"Night Operation** or **Operation at Night"** is operating a source of emissions at night.

K. **"NO2"** or "Nitrogen dioxide" means the chemical compound containing one atom of nitrogen and two atoms of oxygen, for the purposes of ambient determinations. The term **"nitrogen dioxide,"** for the purposes of stack emissions monitoring, shall include nitrogen dioxide (the chemical compound containing one atom of nitrogen and two atoms of oxygen), nitric oxide (the chemical compound containing one atom of nitrogen and one atom of oxygen), and other oxides of nitrogen which may test as nitrogen dioxide and is sometimes referred to as NOx or NO_2. (20.2.2 NMAC)

L. "**NOx**" see NO_2

M. "**Paved Road**" is a road with a permanent solid surface that can be swept essentially free of dust or other material to reduce air re-entrainment of particulate matter. To the extent these surfaces remain solid and contiguous they qualify as paved roads: concrete, asphalt, chip seal, recycled asphalt and other surfaces approved by the Department in writing.

N. **"Potential Emission Rate"** means the emission rate of a source at its maximum capacity to emit a regulated air contaminant under its physical and operational design, provided any physical or operational limitation on the capacity of the source to emit a regulated air contaminant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its physical and operational design only if the limitation or the effect it would have on emissions is enforceable by the department pursuant to the Air Quality Control Act or the federal Act.

O. "**Restricted Area**" is an area to which public entry is effectively precluded. Effective barriers include continuous fencing, continuous walls, or other continuous barriers approved by the Department, such as rugged physical terrain with a steep grade that would require special equipment to traverse. If a large property is completely enclosed by fencing, a restricted area within the property may be identified with signage only. Public roads cannot be part of a Restricted Area.

P. **"Shutdown"** for requirements under 20.2.72 NMAC, means the cessation of operation of any air pollution control equipment, process equipment or process for any purpose, except routine phasing out of batch process units.

Q. **"SSM"** for requirements under 20.2.7 NMAC, means routine or predictable startup, shutdown, or scheduled maintenance.

(1) **"Shutdown"** for requirements under 20.2.7 NMAC, means the cessation of operation of any air pollution control equipment or process equipment.

(2) **"Startup"** for requirements under 20.2.7 NMAC, means the setting into operation of any air pollution control equipment or process equipment.

R. **"Startup"** for requirements under 20.2.72 NMAC, means the setting into operation of any air pollution control equipment, process equipment or process for any purpose, except routine phasing in of batch process units.

C102 Acronyms

2SLB	2-stroke lean burn
4SLB	4-stroke lean burn
4SRB	4-stroke rich burn
acfm	actual cubic feet per minute
AFR	air fuel ratio
AP-42	EPA Air Pollutant Emission Factors
AQB	Air Quality Bureau
AQCR	Air Quality Control Region
ASTM	American Society for Testing and Materials
Btu	British thermal unit
CAA	Clean Air Act of 1970 and 1990 Amendments
CEM	continuous emissions monitoring
cfh	cubic feet per hour
cfm	cubic feet per minute
CFR	Code of Federal Regulation
CI	compression ignition
CO	carbon monoxides
COMS	continuous opacity monitoring system
EIB	Environmental Improvement Board
EPA	United States Environmental Protection Agency
gr/100 cf	grains per one hundred cubic feet
gr/dscf	grains per dry standard cubic foot
GRI	Gas Research Institute
HAP	hazardous air pollutant
hp	horsepower
H_2S	hydrogen sulfide
IC	internal combustion
KW/hr	kilowatts per hour
lb/hr	pounds per hour
lb/MMBtu	pounds per million British thermal unit
MACT	Maximum Achievable Control Technology
MMcf/hr	million cubic feet per hour
MMscf	million standard cubic feet
N/A	not applicable

NAAQS.....National Ambient Air Quality Standards
NESHAP ..... National Emission Standards for Hazardous Air Pollutants
NG ..... natural gas
NGL ..... natural gas liquids
NMAAQS .....New Mexico Ambient Air Quality Standards
NMAC..... New Mexico Administrative Code
NMED.....New Mexico Environment Department
NMSA .....New Mexico Statues Annotated
NOx.....nitrogen oxides
NSCR .....non-selective catalytic reduction
NSPS..... New Source Performance Standard
NSR.....New Source Review
PEM .....parametric emissions monitoring
PM..... particulate matter (equivalent to TSP, total suspended particulate)
PM_{10}.....particulate matter 10 microns and less in diameter
$PM_{2.5}$ .....particulate matter 2.5 microns and less in diameter
pph.....pounds per hour
ppmv ..... parts per million by volume
PSD ..... Prevention of Significant Deterioration
RATA..... Relative Accuracy Test Assessment
RICE .....reciprocating internal combustion engine
rpm ..... revolutions per minute
scfm..... standard cubic feet per minute
SI ..... spark ignition
SO_2 ..... sulfur dioxide
SSM.....Startup Shutdown Maintenance (see SSM definition)
TAP..... Toxic Air Pollutant
TBD.....to be determined
THC.....total hydrocarbons
TSP..... Total Suspended Particulates
tpy .....tons per year
ULSD .....ultra low sulfur diesel
USEPA..... United States Environmental Protection Agency
UTM.....Universal Transverse Mercator Coordinate system
UTMH.....Universal Transverse Mercator Horizontal
UTMV.....Universal Transverse Mercator Vertical
VHAP.....volatile hazardous air pollutant
VOC ..... volatile organic compounds

Sterigenics

AI/AI/CO

1100047254 1

NM

V4

Steve Thompson

January 02, 2008

David Neleigh (6PD-R)
Region 6
Environmental Protection Agency
Fountain Place 12th Floor, Suite 1200
1445 Ross Avenue
Dallas, TX 75202-2733

JAN 22 2008

Program Manager, Compliance and Enforcement Section
New Mexico Environmental Department
Air Quality Bureau
P.O. Box 26110
Santa Fe, New Mexico 87502-0110

Subject: Notification of Compliance for Sterigenics US, LLC's Santa Teresa, New Mexico Facility

Dear Mr. Neleigh:

As required per 40 CFR Part 63, Subpart O – NESHAP Ethylene Oxide Emissions Standards for Sterilization Facilities, attached is a notification of compliance status for Sterigenics US, LLC's Santa Teresa, NM facility. This notification of compliance status is signed by a responsible company official, who certifies its accuracy and attests that this facility has complied with the relevant rules and regulations.

If you have any questions on this notification, please call me at 323-582-8421.

Sincerely,

Gwendolyn Jordan-Howard

Gwendolyn Jordan-Howard
Western Region EH&S Manager

Attachment: Notification of Compliance

Sterigenics International, Inc.
2015 Spring Road, Suite 650 • Oakbrook, IL 60523
Tel 800.472.4508 • Fax 630.928.1701 • www.sterigenics.com

JAN 22 2008

NOTIFICATION OF COMPLIANCE STATUS

Applicable Rule: 40 CFR Part 63, Subpart O – Ethylene Oxide Emissions Standards for Sterilization Facilities

Facility name and contact:

Sterigenics US, LLC – Santa Teresa Facility
2400 Airport Road
Santa Teresa, NM 88008

A. **Method used to determine compliance:**

A performance test was conducted to determine the facility's compliance with the NESHAP regulation. The test conformed to test methods presented in the applicable regulation (40 CFR Part 63, Subpart O).

B. **Results of any performance tests, opacity or visible emission observations, continuous monitoring system (CMS) performance evaluations, and/or other monitoring procedures or methods that were conducted:**

The annual source test for the catalytic oxidizer and scrubber was conducted on November 14, 2007. The Ceilcote scrubber used to control emissions from sterilization chambers showed 99.64% removal efficiency. The catalytic oxidizer system, used to control emissions from the aeration rooms, has an ethylene oxide emission reduction efficiency of 99.08% (40CFR63.362(d) requires reduction to a maximum concentration of 1 ppmv or by at least 99 percent, whichever is less stringent) Therefore, this test demonstrates that Sterigenics' Santa Teresa plant was in compliance with our air permit and the NESHAP regulation for ethylene oxide sterilization facilities.

C. **Methods that will be used for determining continuing compliance, including a description of monitoring and reporting requirements and test methods:**

In order to ensure continuing compliance, Sterigenics measures and records the catalytic oxidizer's catalyst bed temperature on a daily basis. We also monitor the scrubber liquor pH and level on a weekly basis.

D. **Type and quantity of hazardous air pollutants emitted by the source (or surrogate pollutants if specified in the relevant standard), reported in units and averaging times and in accordance with the test methods specified in the relevant standard:**

Our Santa Teresa facility uses greater than 10 tons of ethylene oxide per year to sterilize medical devices. In 2006, the plant used approximately 939,000 pounds of ethylene oxide. About 95% of the ethylene oxide used at the facility is discharged through the sterilization chamber vents (via vacuum pumps). For 2006, these sterilizer chamber vent emissions would be about 892,050 pounds. With 99.64% control efficiency for the acid-water scrubber, the resulting emissions from the scrubber would be about 3,211 pounds of ethylene oxide per year.

About 4% of the ethylene oxide used at the facility is discharged through the aeration rooms and 1% through the back vents. With an average 99.08% control efficiency for the catalytic oxidizer, the resulting emissions from the aeration vents would be about 345 pounds of ethylene oxide per year. Back vent emissions are not controlled.

E. **Analysis demonstrating whether the affected source is a major source or an area source (using the emissions data generated for this notification):**

Using emissions data for this notification, this facility can be considered an area source.

As presented above, this facility used about 939,000 pounds of ethylene oxide in 2006. The total emissions from the facility would be from the scrubber (which treats about 95% of the ethylene oxide used) and the catalytic oxidizer (which treats about 4% of the ethylene oxide used). In 2006, the total emissions would be 3,211 pounds from the scrubber and 345 pounds from the catalytic oxidizer (aeration room emissions). This would equate to about 3,556 pounds of ethylene oxide emissions from the source.

F. **Description of the air pollution control equipment (or method) for each emission point, including each control device (method) for each hazardous air pollutant and the control efficiency:**

The air pollution control equipment used to control the ethylene oxide emissions from the sterilizer chamber vents (from the vacuum pumps) is a wet-acid scrubber system, and from the aeration room, a catalytic oxidizer is used. This scrubber takes the ethylene oxide emissions and converts them to an aqueous ethylene glycol solution. As shown during the annual compliance testing, the catalytic oxidizer has a control efficiency of about 99.08% and the scrubber efficiency is 99.64%.

G. **Statement by the owner or operator of the affected existing, new, or reconstructed source as to whether the source has complied with the relevant standard or other requirements:**

To the best of our knowledge, the Santa Teresa facility has complied with the relevant NESHAP standard; 40 CFR Part 63, Subpart O.

Certification Statement:

To the best of the undersigned's knowledge, information, and belief formed after reasonable inquiry, the information submitted in this notification of compliance status for Sterigenics US, LLC's Santa Teresa, NM facility is true, accurate, and complete.

Signature

Gwendolyn Jordan-Howard
Print Name

Western Region EHS Manager
Title

01/02/08
Date

Ethylene Oxide Emissions Test Report

Ceilcote Scrubber and Donaldson Catalytic Abator

Sterigenics, US, LLC
Santa Teresa, New Mexico

NM Air Quality Permit No. 733-M-9

2007

Ethylene Oxide Emissions Test Report

Ceilcote Scrubber and Donaldson Catalytic Abator

Sterigenics, US, LLC
Santa Teresa, New Mexico

NM Air Quality Permit No. 733-M-9

by

Kramer & Associates, Inc.
4501 Bogan NE Suite A-1
Albuquerque, New Mexico 87109
505-881-0243

November, 2007

Table of Contents

I. Introduction

A. Reason for Tests:

NMED Air Quality Permit No.733-M9 requirement

B. Applicable Regulations and Permits:

NMED Air Permit No. 733-M8
40CFR Part 63; Subpart O.

C. Test Dates:

November 14, 2007

D - E. Plant Startup:

Plant testing was initially performed in 1989 by Kramer & Associates, Inc.; yearly testing has been performed since that time.

F. Process:

The product is received from trucks in the receiving area of the facility. Once the product is received, it will be staged for sterilization. Depending on the production schedule, the product pallets may be loaded into a preconditioning room via forklift. The preconditioning room operated at controlled high temperature and high humidity conditions in order to prepare or "condition" the product for the sterilization process. From the preconditioning room, the product is transferred into a sterilization chamber for sterilization. Each product is validated with a product- and chamber(s)-specific sterilization cycle. Once the sterilization cycle is complete, the pallets of product are then moved via forklift into an aeration room/cell. The aeration rooms (cells) operate at an elevated temperature and with continual air re-circulation to assist further degassing of any ethylene oxide that remains in the product. From aeration, the product is then either stored or shipped back to the manufacturer or its customer.

The Ceilcote scrubber and Donaldson Abator were sampled for EO only. Stack sampling locations are illustrated in Figures 1 and 2.

G. Company Name:

Sterigenics, US, LLC
2400 Airport Road
Santa Teresa, NM 88008
Contact Person: Mr. Steve Ortiz (505-589-9300, ext. 20)

H. Facility:

Santa Teresa, New Mexico Plant
2400 Airport Road
Santa Teresa, NM 88008

I. Testing Firm:

Kramer & Associates, Inc.
4501 Bogan NE, Suite A-1
Albuquerque, NM 87109
Gary R. Kramer (505 881-0243)

J. Individuals Present at Test:

1. Sterigenics, US, LLC: Canuto Ortiz, Steve Ortiz
2. Kramer & Associates, Inc: Gary Kramer, Bill Ristau

K. Units Description:

Sterilizing Chambers and Aeration Cells

L. Control Equipment:

1. Ceilcote Scrubber for sterilizing chamber exhaust
2. Donaldson Catalytic Abator for aeration exhausts

II. Summary

A. Data Summaries:

See Tables 1 and 2.

B. Sterilizer and Aeration Cells Operating Parameters:

See Part 3 of Data and Calculations Section

C. Control Equipment Operating Parameters:

The catalytic converter was operated at a temperature of 262 - 264 °F during all tests (see chart record in Part 3 of Data and Calculations). Ceilcote operating parameters: Tower Temperature = 62° F; Liquid flow = 138 gpm; pH = 1.7; glycol = 17.0% .

D. Measured vs Modeled Parameters:

NMED APCB performed the final modeling analyses (1989).

III Test Procedures:

A. Source Sampling Location:

See Figures 1 and 2.

B. Sampling Systems Schematics:

Teflon line from stack to gas chromatograph

C. Testing Procedures:

1. Stack Flow Rates:

Stack flow measurements from the Donaldson Abator followed Methods 1 - 4 of the 40CFR Part 60 Appendix A. Velocity pitot measurements were taken from 24 points in the outlet stack from the Donaldson Catalytic Abator (see Figure 2) using an "L"-type standard pitot. Note that cyclonic flow measurements taken in 1998 showed an average of two (2) degrees.

Exhaust velocity from the Ceilcote scrubber was monitored with an insertion-type turbine meter as prescribed by the turbine manufacturer (EG&G). A calibrated strip chart recorded turbine voltage outputs from the turbine flow rate indicator continuously during the sampling period. The voltage-time chart records were integrated manually, and average turbine output voltage was calculated for each sampling period. Average stack velocity then was computed from the average turbine voltage. No cyclonic flow check was performed on the Ceilcote stack.

2. Ethylene Oxide Concentrations:

Stack gas samples were collected through ¼" Teflon tubing directly into the gas chromatograph for at least 1.5 hour period. Sampling location was alternated from inlet to outlet on the Donaldson unit. The estimated Teflon tubing purge time was 4 seconds (at 10 liters per minute sampling rate). All samples were analyzed on a Perkin Elmer GC for EO. Calibrations were performed using EPA Protocol Gases (Ethylene Oxide in Nitrogen – 5 ppm and 50 ppm). Gas chromatograph column purging was required between the Cielcote samples.

D. Deviations from EPA Methods:

Only two calibration gases were used.

E. Test Instrumentation:

1. EG&G Turbo Probe Flow Meter Model TP141DNXA; Range 0-4000 fpm
2. EG&G Flow Rate Indicator; Model R151; Range 0-10 Volts
3. Kipp & Zonen Model BD40 Strip Chart Recorder
4. SKC Model 224-PCXR8 Universal Constant Flow Sampling Pumps
5. SKC 224-26-01 Low-Flow Controller
6. Burrell Gas Analyzer (0.1% sensitivity)
7. Perkin Elmer Gas Chromatograph w/ flame ionization detector
9. Anderson Model CU3 Method 5 Sampling System
10. Dwyer inclined Manometer Assembly (0.01 in. H2O sensitivity)

F. Unit Operating Parameters:

Pounds of EO charged to the sterilizing chambers were recorded, and Donaldson Abator catalyst bed temperatures are continually recorded.

IV. Data and Calculations

A. Field Test Data and Calculations

Part 1: - Ceilcote
Part 2: - Donaldson Catalytic Abator
Part 3: - Plant Operating Data

B. Laboratory Data:

See Parts 1 and 2

C. Circular Chart Record:

Donaldson Catalyst Bed Temperature: See Part 3

D. Calculations:

See Parts 1 and 2

E. Calibration Gas Certifications:

5 and 50 ppm EO (see Appendix).

F. Audit Sample Results:

None analyzed

G. Visible Emissions Results:

None taken.

H. Sample Chain of Custody:

All samples were in the custody of KAI personnel at all times.

Part 1

Ceilcote Scrubber Field Sampling
GC Data
Calculations

Ceilcote Emissions

Sterigenics - Santa Teresa, NM

Date: 11/14/07

Ambient Air:	#1	#2	$3	#4	Avg.
	0.05	0.05	0.05	0.05	0.05

	GC-1 (ppm)	GC-2 (ppm)	GC-3 (ppm)	GC-4 (ppm)	Corr Out Avg. (ppm)	Velocity ft/min.	Flow CFM	Emiss'n Rate lb/hr
Ceilcote #1	453.47	458.06	429.37	427.54	442.06	343	247.41	0.7481
Ceilcote #2	418.78	412.37	397.72	416.49	411.29	471	339.73	0.9557
Ceilcote #3	385.27	371.21	395.4	350.17	375.46	352	253.90	0.6521
Ceilcote #4	373.15	364.92	327.14	330.87	348.97	430	310.16	0.7403
Ceilcote #5	298.27	300.12	158.5	284.01	260.18	242	174.55	0.3106
Ceilcote #6	264.73	278.13	255.72	254.19	263.14	327	235.87	0.4245
Ceilcote #7	257.81	245.47	234.14	220.45	239.42	482	347.67	0.5693
Ceilcote #8	206.4	218.31	196.19	200	205.18	387	279.14	0.3917
Ceilcote #9	189.68	188.36	189.67		189.19	275	198.36	0.2567
Ceilcote #10	207.17	219.76	233.22		220.00	443	319.54	0.4808
Average:					295.49	375.20	270.63	0.55

Average EO Entering Ceilcote: 157.25

Lb/hr EO=ppmEO*1.14x10^-7*CFM*60

EO Removal Efficiency: 99.648

Velocity Determined from Strip Chart

Permit Allowables: 8.8 lb/hr

Part 2

Donaldson Abator Field Sampling
GC Data
Calculations

Table 2: Ethylene Oxide Sampling Data

PLANT NAME: Sterigenics
STACK ID: Donaldson Abator
SAMPLE DATES: 11/14/07

Number of Traverse Points			16
Point No.	ΔP Rdg.	Sqrt ΔP	Cyclonic
1	0.3	0.55	
2	0.34	0.58	2 Deg Ave
3	0.38	0.62	(1998)
4	0.38	0.62	
5	0.34	0.58	
6	0.3	0.55	
7	0.28	0.53	
8	0.26	0.51	
9	0.28	0.53	
10	0.32	0.57	
11	0.33	0.57	
12	0.34	0.58	
13	0.32	0.57	
14	0.32	0.57	
15	0.32	0.57	
16	0.32	0.57	
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
Ave Sqrt ΔP		0.5655	
Stack Diameter, in		24	
Stack Area, Ft2		3.142	
Cp	0.99		
% H2O	3.06		
Vw	0.753		
Vmstd	23.842		
Molecular Weight		28.64	
Ave. Velocity FPS		44.38	
ACFM	8365.95		
DSCFM	5811.83		

ORSAT ANALYSIS DATA				
	1	2	3	Ave.
%CO2	0.3	0.3	0.3	0.3
%CO2+O2	20.5	20.5	20.5	
%O2	20.2	20.2	20.2	20.2

Barometric Pressure, in Hg	25.78
Static Pressure, in H2O	0.1
Stack Pressure, in Hg	25.79
Stack Temperature, Deg F.	175
Console I.D.	MISCO
ΔH, in H2O	0.15

Leak Ck = 0.006cfm@ 4"Hg

Moisture Data		
Gas Meter Reading	Meter in Deg. F	Meter Out Deg. F
371	67	67
399	81	83
399		

Cubic Ft Gas Taken	28		
Ave. Meter Temp. in, Deg. F		74.00	
Ave Meter Temp. out, Deg F			75.00
Ave Meter Temp., Deg. R			534.50
Moisture Analysis			
ml Imp1	108	ml Silica Wt	216.5
ml Imp2	101	Initial Silica Wt,gm	200
ml Imp3	0	gm H2O in Silica	7
Init. H2O	200		
Net H2O	9	Total gm H2O	16

Ethylene Oxide Emissions		
DA Inlet PPM	DA Outlet PPM	% ETO Remov'l Eff.
33.79	0.836	97.53
35.65	0.337	99.05
33.24	0.118	99.65
32.25	0.2	99.38
27.12	0.05	99.82
Ave	32.410	0.308	99.084
Ave lb/hr	1.288	0.0120	
Permit Lb/hr		0.08	

Part 3

Plant Operating Data

Appendix

Sampling Equipment Calibrations

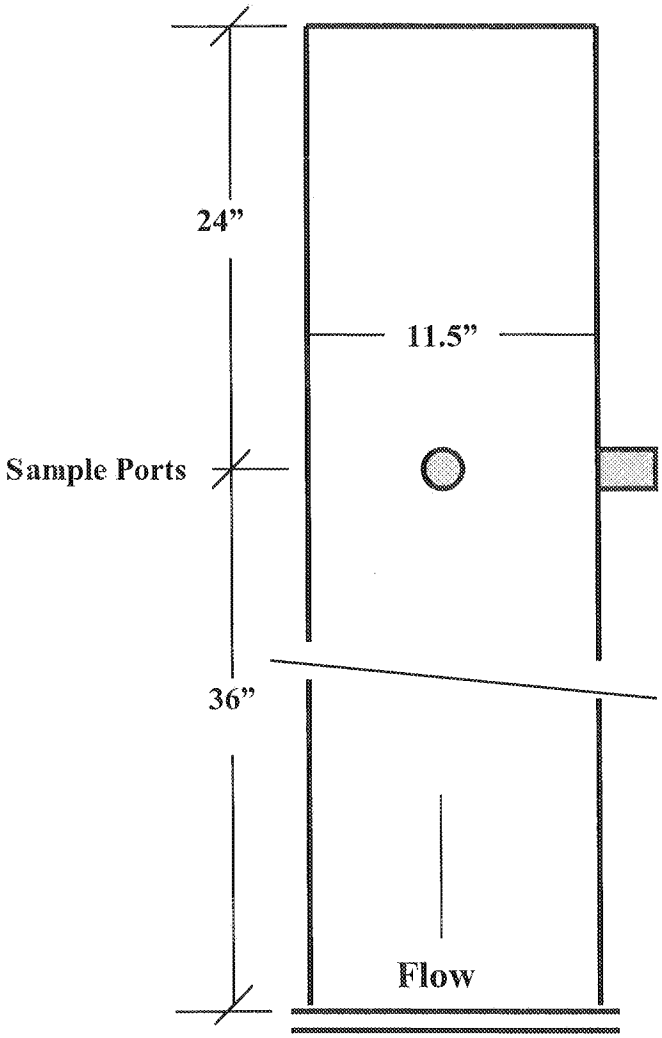


Figure 1

Ceilcote Stack Sampling Locations

Sterigenics
Santa Teresa, New Mexico

Ceilcote Scrubber Exhaust Velocity Calculations

1. **Area of Stack:** $A = 3.14159 * (5.75)^2 = 103.87 \text{ in}^2 = 0.7213 \text{ ft}^2$

2. **Area obstructed by Turbine:** $A_o = 5.75 \text{ in}^2$ (1" Turbine)

3. **Turbine Meter Reading Correction Factor:**

$$V_t = ((A-A_o)/A) * V_{meas} = ((103.87-5.75)/103.87) * V_{meas} = 0.9446 * V_{meas}$$

Where: V_t = true velocity, ft per min
V_{meas} = measured velocity, ft per min

4. **Measured Velocity:**

$$V_{meas} = 420 V_i + 75 \text{ (for } V_i < 0.7)$$

$$V_{meas} = 376 V_i + 90 \text{ (for } V_i > 0.7)$$

Where: V_i = velocity meter reading in volts

5. **True Velocity (combining items #3 and #4):**

$$V_t = 0.9446 (420 V_i + 75) = 397 V_i + 71 \text{ (for } V_i < 0.7)$$

$$V_t = 0.9446 (376 V_i + 90) = 355 V_i + 85 \text{ (for } V_i > 0.7)$$

Turbo Probe Appendix Pages and Calibrations Follow This Page

AC/AI/CO 1100004725-41

Sterigenics

N541
64
40254

JAN 31 2008

January 22, 2008

Air, Pesticides and Toxics
Director
EPA Region VI
1445 Ross Avenue
Dallas, TX 75202-2733

RE: Summary Report - Excess Gaseous Emissions and Continuous Monitoring System Performance
Sterigenics Santa Teresa, NM Plant
July01, 2007 to December 31, 2008

Dear Director:

As required by 40 CFR 63.366(a)(3), Sterigenics US, LLC is submitting this semi-annual excess emissions and continuous monitoring system summary report for our Santa Teresa, NM plant.

40 CFR 63.10(e)(3)(vii) states: "If the total duration of excess emissions or process or control system parameter exceedances for the reporting period is less than 1 percent of the total operating time for the reporting period, and CMS downtime for the reporting period is less than 5 percent of the total operating time for the reporting period, only the summary report shall be submitted, and the full excess emissions and continuous monitoring system performance report need not be submitted unless required by the Administrator".

As set forth in the above cited regulation, we are submitting this summary report for our Santa Teresa plant because:

1. The total duration of excess emissions and the process or control system parameter exceedances for the reporting period was twelve (12.5) hours which is less than 1 percent of the total operating time for the reporting period, and
2. CMS downtime for the reporting period was zero (0) hours, which is less than 5 percent of the total operating time for the reporting period.

Sterigenics US, LLC has reviewed all applicable provisions of the operating permit. The following information is submitted as required in §63.10(e)(3)(vi):

(A) Company Name and Address of the Affected Source
Sterigenics US, LLC
2400 Airport Road
Santa Teresa, NM 88008

(B) Identification of Hazardous Air Pollutant
Ethylene Oxide

Sterigenics International, Inc.
2015 Spring Road, Suite 650 • Oakbrook, IL 60523
Tel 800.472.4508 • Fax 630.928.1701 • www.sterigenics.com

Sterigenics

© Reporting Period Dates
Beginning: July 01, 2007
Ending: December 31,2007

(D) Description of Process Units
The facility process units are sterilization process chambers of various sizes using ethylene oxide gas as the sterilant. High concentration ethylene oxide process emissions are vented to an acid-water scrubber and low concentration ethylene oxide emissions are exhausted to a catalytic oxidizer abator.

(E) Emission and Operating Parameter Limitations Specified in Relevant Standards

Control Unit	Control Parameter	Limitations/Standards
Abator	Catalytic bed temperature	Continuously monitor; >240°F
Scrubber	Scrubber tank liquid level	Record weekly

(F) Monitoring Equipment Manufacturers and Model Numbers

Monitoring Equipment	Model Number	Serial Number
Honeywell Chart Recorder	Truline DR450T	8939760945047

(G) Date of Latest CMS Certification or Audit
1/29/07 (Semi-Annual Calibration)

(H) Total Operating Time of Affected Source during Reporting Period
Continuous, for a total of 4416 hours.

(I) Emission Data Summary

Control Unit	Total Duration of Excess Emissions	Excess Emission Duration as % of Total Hours	Excess Emission Duration by Cause				
			Startup/ Shutdown	Control Equipment Problems	Process Problems	Other Known Causes	Other Unknown Causes
Abator	12.5 hr	0.3%	0	12.5 hrs[1]	0	0	0
Scrubber	0 hr	0%	0	0	0	0	0

[1] On 09/10/2007 the abator experienced an 8-hour time period when the system was down due to heavy thunderstorms and moisture. The abator was restarted on 09/11/07 and regained full compliance. The excess emissions were minimal <1lb.

Sterigenics International, Inc.
2015 Spring Road, Suite 650 • Oakbrook, IL 60523
Tel 800.472.4508 • Fax 630.928.1701 • www.sterigenics.com

Sterigenics.

(J) CMS Performance Summary

CMS Unit	Total CMS Downtime	Total CMS Downtime as % of Total Hours	CMS Downtime by Cause (hours)				
			Monitoring Equipment Malfunctions	Nonmonitoring Equipment Malfunctions	Quality Control Calibrations	Other Known Causes	Other Unknown Causes
Honeywell Chart Recorder	0 hr	0%	0	0	0	0	0

(K) Description of Changes in CMS, Processes or Controls since Last Reporting Period
None.

(L) Responsible Official Certification
Based on the information and belief formed after reasonable inquiry, the statements and information in this report are true, accurate, and complete.

KA Hoffman

Kathleen Hoffman
Vice President – RA/QA

(M) Date of Report
January 22, 2008

If you have any questions regarding this report, please call Kathleen Hoffman at (630) 928-1758 or KHoffman@Sterigenics.com.

Sincerely,

KA Hoffman

Kathleen Hoffman
Vice President – RA/QA

Cc: Ms. Mary Uhl
Bureau Chief
State of New Mexico, Environment Department
Air Quality Bureau
2048 Galisteo St.
Santa Fe, NM 87505

Sterigenics International, Inc.
2015 Spring Road, Suite 650 • Oakbrook, IL 60523
Tel 800.472.4508 • Fax 630.928.1701 • www.sterigenics.com

1100004725 41

N541 v4 A1/A1/CO

RECEIVED
2009 JAN 26 AM 2:40
AIR PERMITS SECTION
6PD-R

Sterigenics.

January 22, 2009

David Neleigh (6PD-R)
Region 6
Environmental Protection Agency
Fountain Place 12th Floor, Suite 1200
1445 Ross Avenue
Dallas, TX 75202-2733

Program Manager, Compliance and Enforcement Section
New Mexico Environmental Department
Air Quality Bureau
P.O. Box 26110
Santa Fe, New Mexico 87502-0110

Subject: Notification of Compliance for Sterigenics US, LLC's Santa Teresa, New Mexico Facility

Dear Mr. Neleigh:

As required per 40 CFR Part 63, Subpart O – NESHAP Ethylene Oxide Emissions Standards for Sterilization Facilities, attached is a notification of compliance status for Sterigenics US, LLC's Santa Teresa, NM facility. This notification of compliance status is signed by a responsible company official, who certifies its accuracy and attests that this facility has complied with the relevant rules and regulations.

If you have any questions on this notification, please contact Steve Ortiz at 575-589-9300 or myself at 661-817-0746.

Sincerely,

[signature] for Gwen Howard

Gwendolyn Jordan-Howard
Western Region EHS Manager

Attachment: Notification of Compliance

Sterigenics

NOTIFICATION OF COMPLIANCE STATUS

Applicable Rule: 40 CFR Part 63, Subpart O – Ethylene Oxide Emissions Standards for Sterilization Facilities

Facility name and contact:

Sterigenics US, LLC – Santa Teresa Facility
2400 Airport Road
Santa Teresa, NM 88008

A. **Method used to determine compliance:**

A performance test was conducted to determine the facility's compliance with the NESHAP regulation. The test conformed to test methods presented in the applicable regulation (40 CFR Part 63, Subpart O).

B. **Results of any performance tests, opacity or visible emission observations, continuous monitoring system (CMS) performance evaluations, and/or other monitoring procedures or methods that were conducted:**

The annual source test for the catalytic oxidizer and scrubber was conducted on November 18, 2008. The Ceilcote scrubber used to control emissions from sterilization chambers showed 99.1% removal efficiency. The catalytic oxidizer system, used to control emissions from the aeration rooms, has an ethylene oxide emission reduction efficiency of 99.0% or 0.5ppmv (40CFR63.362(d) requires reduction to a maximum concentration of 1 ppmv or by at least 99 percent, whichever is less stringent). Therefore, this test demonstrates that Sterigenics' Santa Teresa plant was in compliance with our air permit and the NESHAP regulation for ethylene oxide sterilization facilities.

C. **Methods that will be used for determining continuing compliance, including a description of monitoring and reporting requirements and test methods:**

In order to ensure continuing compliance, Sterigenics measures and records the catalytic oxidizer's catalyst bed temperature on a daily basis. We also monitor the scrubber liquor pH and level on a weekly basis.

D. **Type and quantity of hazardous air pollutants emitted by the source (or surrogate pollutants if specified in the relevant standard), reported in units and averaging times and in accordance with the test methods specified in the relevant standard:**

Sterigenics International, Inc.
2015 Spring Road, Suite 650 ▫ Oak Brook, IL 60523
Tel 630.928.1700 ▫ Fax 630.928.1701 ▫ www.sterigenics.com

Our Santa Teresa facility uses greater than 10 tons of ethylene oxide per year to sterilize medical devices. In 2007, the plant used approximately 926,179 pounds of ethylene oxide. About 95% of the ethylene oxide used at the facility is discharged through the sterilization chamber vents (via vacuum pumps). For 2007, these sterilizer chamber vent emissions would be about 879,870 pounds. With 99.10% control efficiency for the acid-water scrubber, the resulting emissions from the scrubber would be about 7,918 pounds of ethylene oxide per year.

About 4% of the ethylene oxide used at the facility is discharged through the aeration rooms and 1% through the back vents. With average control efficiency of 99.0% for the catalytic oxidizer, the resulting emissions from the aeration vents would be about 370 pounds of ethylene oxide per year. Back vent emissions are not controlled.

E. **Analysis demonstrating whether the affected source is a major source or an area source (using the emissions data generated for this notification):**

Using emissions data for this notification, this facility can be considered an area source.

As presented above, this facility used about 926,179 pounds of ethylene oxide in 2007. The total emissions from the facility would be from the scrubber (which treats about 95% of the ethylene oxide used) and the catalytic oxidizer (which treats about 4% of the ethylene oxide used). In 2007, the total emissions would be 7,918 pounds from the scrubber and 370 pounds from the catalytic oxidizer (aeration room emissions). This would equate to about 8288 pounds of ethylene oxide emissions from the source.

F. **Description of the air pollution control equipment (or method) for each emission point, including each control device (method) for each hazardous air pollutant and the control efficiency:**

The air pollution control equipment used to control the ethylene oxide emissions from the sterilizer chamber vents (from the vacuum pumps) is a wet-acid scrubber system, and from the aeration room, a catalytic oxidizer is used. This scrubber takes the ethylene oxide emissions and converts them to an aqueous ethylene glycol solution. As shown during the annual compliance testing, the catalytic oxidizer has a control efficiency of about 99.0% and the scrubber efficiency is 99.10%.

G. **Statement by the owner or operator of the affected existing, new, or reconstructed source as to whether the source has complied with the relevant standard or other requirements:**

To the best of our knowledge, the Santa Teresa facility has complied with the relevant NESHAP standard; 40 CFR Part 63, Subpart O.

Certification Statement:

To the best of the undersigned's knowledge, information, and belief formed after reasonable inquiry, the information submitted in this notification of compliance status for Sterigenics US, LLC's Santa Teresa, NM facility is true, accurate, and complete.

KA Hoffman	Kathleen Hoffman
Signature	Print Name
Vice –President RA/QA	01/22/2009
Title	Date

Ethylene Oxide Emissions Test Report

Ceilcote Scrubber and Donaldson Catalytic Abator

Sterigenics, US, LLC
Santa Teresa, New Mexico

NM Air Quality Permit No. 733-M-9

2008

KRAMER & ASSOCIATES
ALBUQUERQUE, NEW MEXICO

Ethylene Oxide Emissions Test Report

Ceilcote Scrubber and Donaldson Catalytic Abator

Sterigenics, US, LLC
Santa Teresa, New Mexico

NM Air Quality Permit No. 733-M-9

by

Kramer & Associates, Inc.
4501 Bogan NE Suite A-1
Albuquerque, New Mexico 87109
505-881-0243

November, 2008

Table of Contents

I. Introduction

A. Reason for Tests:

NMED Air Quality Permit No.733-M9 requirement

B. Applicable Regulations and Permits:

NMED Air Permit No. 733-M8
40CFR Part 63; Subpart O.

C. Test Dates:

November 18, 2008

D - E. Plant Startup:

Plant testing was initially performed in 1989 by Kramer & Associates, Inc.; yearly testing has been performed since that time.

F. Process:

The product is received from trucks in the receiving area of the facility. Once the product is received, it will be staged for sterilization. Depending on the production schedule, the product pallets may be loaded into a preconditioning room via forklift. The preconditioning room operated at controlled high temperature and high humidity conditions in order to prepare or "condition" the product for the sterilization process. From the preconditioning room, the product is transferred into a sterilization chamber for sterilization. Each product is validated with a product- and chamber(s)-specific sterilization cycle. Once the sterilization cycle is complete, the pallets of product are then moved via forklift into an aeration room/cell. The aeration rooms (cells) operate at an elevated temperature and with continual air re-circulation to assist further degassing of any ethylene oxide that remains in the product. From aeration, the product is then either stored or shipped back to the manufacturer or its customer.

The Ceilcote scrubber and Donaldson Abator were sampled for EO only. Stack sampling locations are illustrated in Figures 1 and 2.

G. Company Name:

Sterigenics, US, LLC
2400 Airport Road
Santa Teresa, NM 88008
Contact Person: Mr. Steve Ortiz (505-589-9300, ext. 20)

H. Facility:

Santa Teresa, New Mexico Plant
2400 Airport Road
Santa Teresa, NM 88008

I. Testing Firm:

Kramer & Associates, Inc.
4501 Bogan NE, Suite A-1
Albuquerque, NM 87109
Gary R. Kramer (505 881-0243)

J. Individuals Present at Test:

1. Sterigenics, US, LLC: Canuto Ortiz, Steve Ortiz
2. Kramer & Associates, Inc: Gary Kramer, Bill Ristau, Dustin Dwyer

K. Units Description:

Sterilizing Chambers and Aeration Cells

L. Control Equipment:

1. Ceilcote Scrubber for sterilizing chamber exhaust
2. Donaldson Catalytic Abator for aeration exhausts

II. Summary

A. Data Summaries:

See Tables 1 and 2.

B. Sterilizer and Aeration Cells Operating Parameters:

See Part 3 of Data and Calculations Section

C. Control Equipment Operating Parameters:

The catalytic converter was operated at a temperature of 272 °F during all tests (see chart record in Part 3 of Data and Calculations). Ceilcote operating parameters: Tower Temperature = 62° F; Liquid flow = 138 gpm; pH = 1.7; glycol = 17.0% .

D. Measured vs Modeled Parameters:

NMED APCB performed the final modeling analyses (1989).

Table 1: Ceilcote Emissions

Sterigenics - Santa Teresa, NM

Date: 11/18/08

	#1	#2	$3	#4	Avg.
Ambient Air:	0.05	0.05	0.05	0.05	0.05

	GC-1 (ppm)	GC-2 (ppm)	GC-3 (ppm)	GC-4 (ppm)	Corr Out Avg. (ppm)	Velocity ft/min.	Flow CFM	Emiss'n Rate lb/hr
Ceilcote #1	968	949			958.45	401	289.24	1.8962
Ceilcote #2	882	640	762		761.28	486	350.55	1.8254
Ceilcote #3	651	755	213		539.62	731	527.27	1.9461
Ceilcote #4	57.5	62	101		73.45	2353	1697.22	0.8527
Ceilcote #5	100	159	209		155.95	939	677.30	0.7225
Ceilcote #6	193	188	120		166.95	551	397.44	0.4538
Ceilcote #7	181	177	198		185.28	455	328.19	0.4159
Average:					355.12	739.50	533.40	1.16

Average EO Entering Ceilcote: 126.5

EO Removal Efficiency: 99.1

Permit Allowables: 8.8 lb/hr

Lb/hr EO=ppmEO*1.14x10^-7*CFM*60

Velocity Determined from Strip Chart

Table 2: Ethylene Oxide Sampling Data

PLANT NAME: Sterigenics
STACK ID: Donaldson Abator
SAMPLE DATES: 11/18/08

Number of Traverse Points			16
Point No.	ΔP Rdg.	Sqrt ΔP	Cyclonic
1	0.18	0.42	
2	0.19	0.44	2 Deg Ave
3	0.2	0.45	(1998)
4	0.2	0.45	
5	0.2	0.45	
6	0.2	0.45	
7	0.2	0.45	
8	0.2	0.45	
9	0.2	0.45	
10	0.2	0.45	
11	0.2	0.45	
12	0.2	0.45	
13	0.2	0.45	
14	0.2	0.45	
15	0.2	0.45	
16	0.2	0.45	
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
Ave Sqrt ΔP		0.4451	
Stack Diameter, in		24	
Stack Area, Ft2		3.142	
Cp	0.99		
% H2O	2.13		
Vw	1.130		
Vmstd	51.868		
Molecular Weight		28.73	
Ave. Velocity FPS		34.50	
ACFM	6503.05		
DSCFM	4660.35		

ORSAT ANALYSIS DATA				
	1	2	3	Ave.
%CO2	0.2	0.2	0.2	0.2
%CO2+O2	20.5	20.5	20.5	
%O2	20.3	20.3	20.3	20.3

Barometric Pressure, in Hg	26.3
Static Pressure, in H2O	0.1
Stack Pressure, in Hg	26.31
Stack Temperature, Deg F.	174
Console I.D.	MISCO
ΔH, in H2O	0.18

Leak Ck = 0.005cfm@ 10"Hg

Moisture Data		
Gas Meter Reading	Meter in Deg. F	Meter Out Deg. F
775	45	45
833	73	74
833		

Cubic Ft Gas Taken	58		
Ave. Meter Temp. in, Deg. F		59.00	
Ave Meter Temp. out, Deg F			59.50
Ave Meter Temp., Deg. R			519.25
Moisture Analysis			
ml Imp1	110	ml Silica Wt 216.5	210
ml Imp2	104	Initial Silica Wt,gm	200
ml Imp3	0	gm H2O in Silica	10
Init. H2O	200		
Net H2O	14	Total gm H2O	24

Ethylene Oxide Emissions		
DA Inlet PPM	DA Outlet PPM	% ETO Remov'l Eff.
41	0.8	98.05
50.8	1.05	97.93
50.8	0.65	98.72
48.6	0.29	99.40
46.1	0.38	99.18
48	0.11	99.77
47.550	0.547	98.842
1.515	0.0170	
	0.08	

III Test Procedures:

A. Source Sampling Location:

See Figures 1 and 2.

B. Sampling Systems Schematics:

Teflon line from stack to gas chromatograph

C. Testing Procedures:

1. Stack Flow Rates:

Stack flow measurements from the Donaldson Abator followed Methods 1 - 4 of the 40CFR Part 60 Appendix A. Velocity pitot measurements were taken from 24 points in the outlet stack from the Donaldson Catalytic Abator (see Figure 2) using an "L"-type standard pitot. Note that cyclonic flow measurements taken in 1998 showed an average of two (2) degrees.

Exhaust velocity from the Ceilcote scrubber was monitored with an insertion-type turbine meter as prescribed by the turbine manufacturer (EG&G). A calibrated strip chart recorded turbine voltage outputs from the turbine flow rate indicator continuously during the sampling period. The voltage-time chart records were integrated manually, and average turbine output voltage was calculated for each sampling period. Average stack velocity then was computed from the average turbine voltage. No cyclonic flow check was performed on the Ceilcote stack.

2. Ethylene Oxide Concentrations:

Stack gas samples were collected through ¼" Teflon tubing directly into the gas chromatograph for at least 1.5 hour period. Sampling location was alternated from inlet to outlet on the Donaldson unit. The estimated Teflon tubing purge time was 4 seconds (at 10 liters per minute sampling rate). All samples were analyzed on a Perkin Elmer GC for EO. Calibrations were performed using EPA Protocol Gases (Ethylene Oxide in Nitrogen – 5 ppm and 50 ppm). Gas chromatograph column purging was required between the Cielcote samples.

D. Deviations from EPA Methods:

Only two calibration gases were used (5 ppm ETO and 50 ppm ETO)

E. Test Instrumentation:

1. EG&G Turbo Probe Flow Meter Model TP141DNXA; Range 0-4000 fpm
2. EG&G Flow Rate Indicator; Model R151; Range 0-10 Volts
3. Kipp & Zonen Model BD40 Strip Chart Recorder
4. SKC Model 224-PCXR8 Universal Constant Flow Sampling Pumps
5. SKC 224-26-01 Low-Flow Controller
6. Burrell Gas Analyzer (0.1% sensitivity)
7. Perkin Elmer Gas Chromatograph w/ flame ionization detector
9. MISCO Model 7200 Method 5 Sampling System
10. Dwyer inclined Manometer Assembly (0.01 in. H2O sensitivity)

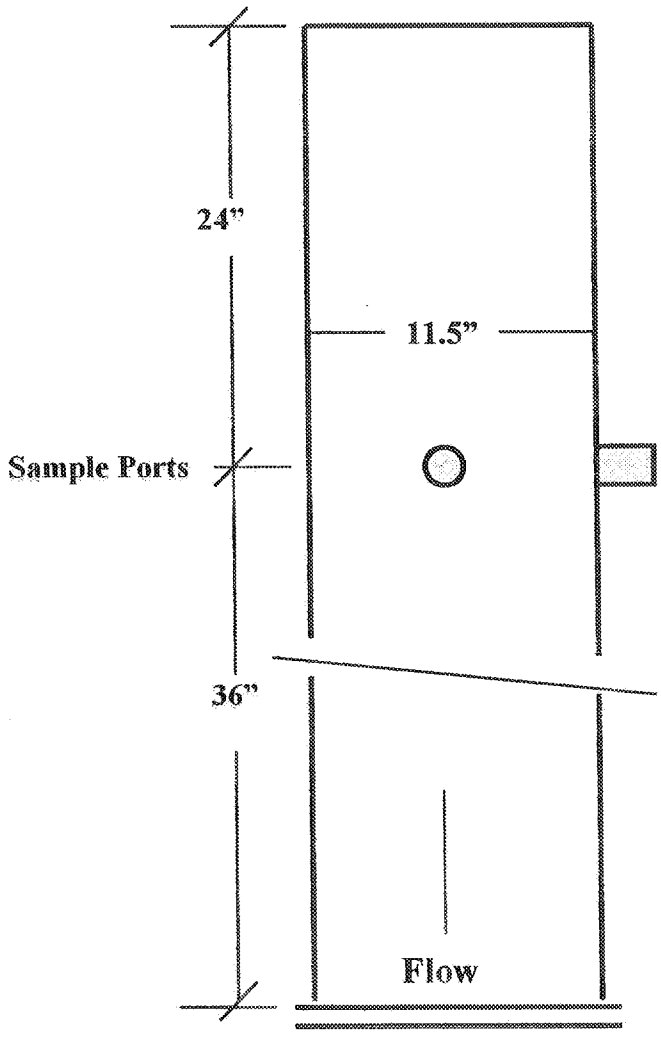


Figure 1

Ceilcote Stack Sampling Locations

Sterigenics
Santa Teresa, New Mexico

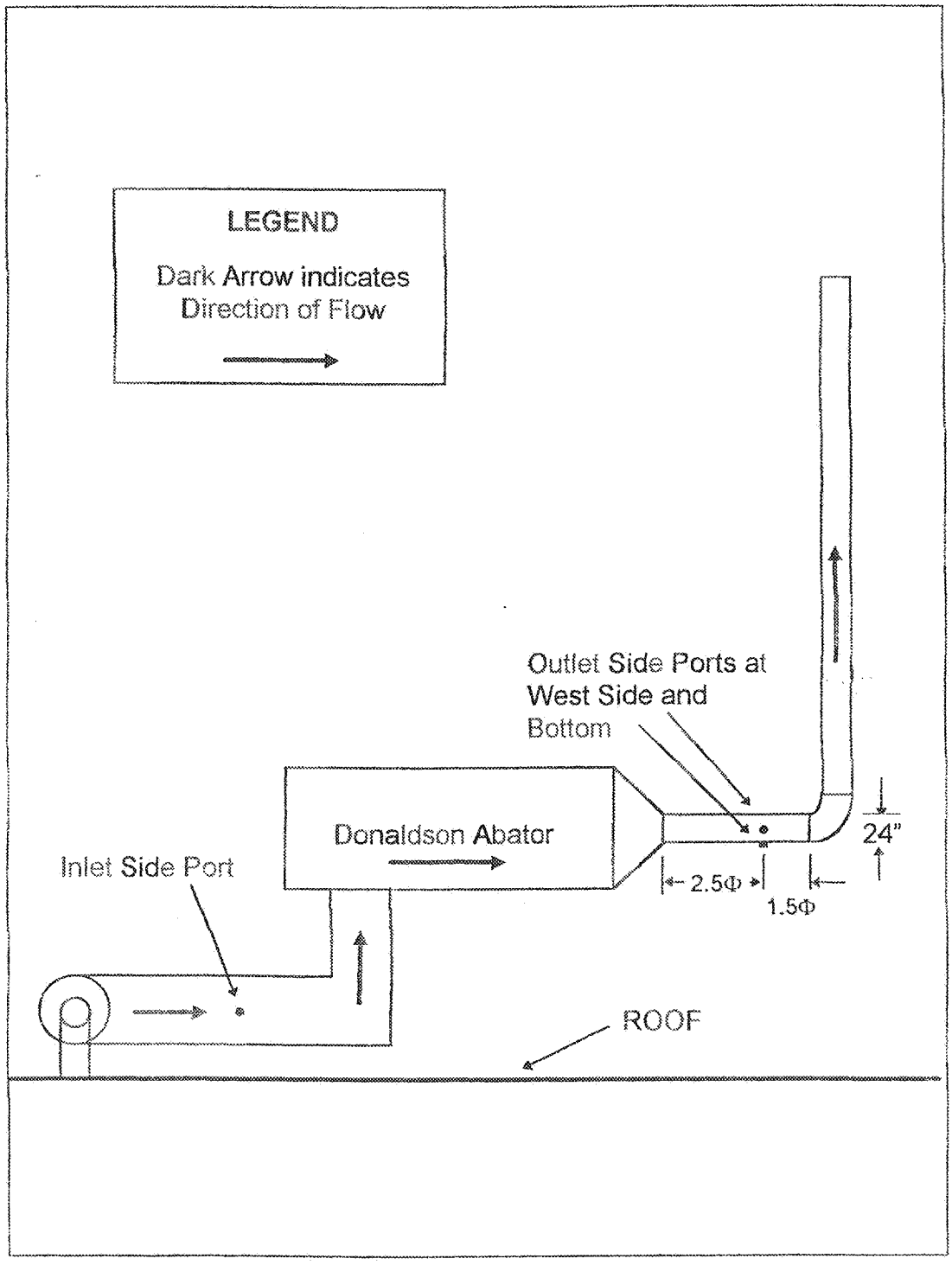


Figure 2. Sampling Location Schematic for Donaldson Abator.

F. Unit Operating Parameters:

Pounds of EO charged to the sterilizing chambers were recorded, and Donaldson Abator catalyst bed temperatures are continually recorded.

IV. Data and Calculations

A. Field Test Data and Calculations

Part 1: - Ceilcote
Part 2: - Donaldson Catalytic Abator
Part 3: - Plant Operating Data

B. Laboratory Data:

See Parts 1 and 2

C. Circular Chart Record:

Donaldson Catalyst Bed Temperature: See Part 3

D. Calculations:

See Parts 1 and 2

E. Calibration Gas Certifications:

5 and 50 ppm EO (see Appendix).

F. Audit Sample Results:

None analyzed

G. Visible Emissions Results:

None taken.

H. Sample Chain of Custody:

All samples were in the custody of KAI personnel at all times.

Part 1

Ceilcote Scrubber Field Sampling
GC Data
Calculations

Ceilcote Emissions

Sterigenics - Santa Teresa, NM

Date: 11/18/08

	#1	#2	$3	#4	Avg.
Ambient Air:	0.05	0.05	0.05	0.05	0.05

	GC-1 (ppm)	GC-2 (ppm)	GC-3 (ppm)	GC-4 (ppm)	Corr Out Avg. (ppm)	Velocity ft/min.	Flow CFM	Emiss'n Rate lb/hr
Ceilcote #1	857	1031			943.95	387	279.14	1.8023
Ceilcote #2	968	949			958.45	401	289.24	1.8962
Ceilcote #3	882	640	762		761.28	486	350.55	1.8254
Ceilcote #4	651	755	213		539.62	731	527.27	1.9461
Ceilcote #5	57.5	62	101		73.45	2353	1697.22	0.8527
Ceilcote #6	100	159	209		155.95	939	677.30	0.7225
Ceilcote #7	193	188	120		166.95	551	397.44	0.4538
Ceilcote #8	181	177	198		185.28	455	328.19	0.4159
Average:					473.12	787.88	568.29	1.24

Average EO Entering Ceilcote 126.5

Lb/hr EO=ppmEO*1.14x10^-7*CFM*60

EO Removal Efficiency 99.020

Velocity Determined from Strip Chart

Permit Allowables: 8.8 lb/hr

Ceilcote

Individual Port Results 11/18/2008

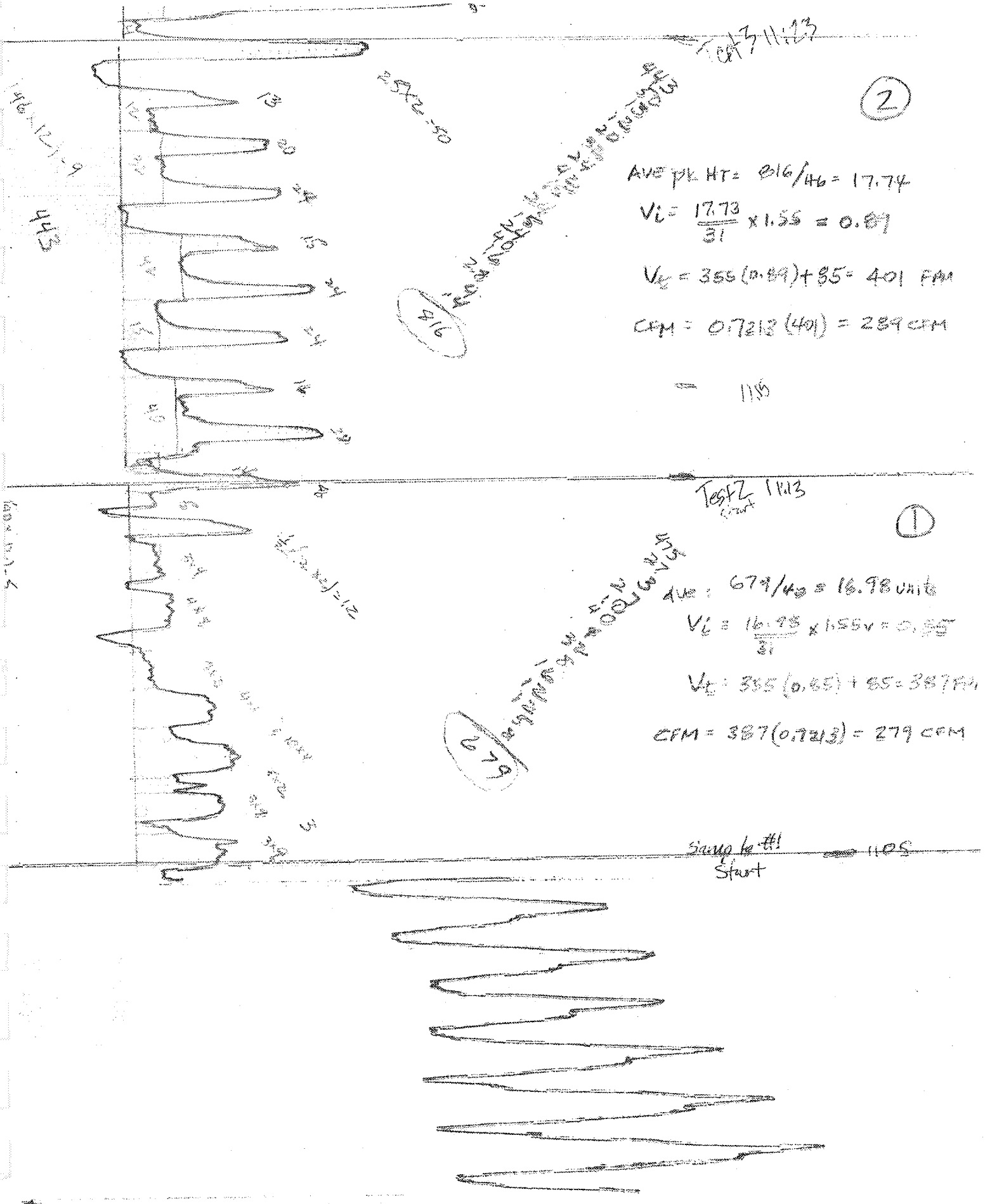
Date/Time	Port	ETO
008 5:02:09 PM	Ceilcote	0
008 5:04:31 PM	Ceilcote	0
008 5:06:53 PM	Ceilcote	0
008 5:09:15 PM	Ceilcote	0
008 5:11:37 PM	Ceilcote	0
008 5:13:59 PM	Ceilcote	0
008 5:16:21 PM	Ceilcote	0
008 5:18:43 PM	Ceilcote	0
008 6:01:01 PM	Ceilcote	372.0983
008 6:03:23 PM	Ceilcote	856.6937
008 6:05:45 PM	Diagnostic	57.53749
008 6:08:07 PM	Ceilcote	1030.617
008 6:10:29 PM	Diagnostic	58.74072
008 6:12:51 PM	Ceilcote	967.7025
008 6:15:13 PM	Diagnostic	54.15562
008 6:17:35 PM	Ceilcote	948.5768
008 6:19:57 PM	Diagnostic	55.32747
008 6:22:19 PM	Ceilcote	882.1006
008 6:24:41 PM	Diagnostic	57.50621
008 6:27:03 PM	Ceilcote	639.5311
008 6:29:25 PM	Diagnostic	57.13383
008 6:31:47 PM	Ceilcote	761.6737
008 6:34:09 PM	Diagnostic	58.04856
008 6:36:31 PM	Ceilcote	651.3587
008 6:38:53 PM	Diagnostic	58.40069
008 6:41:11 PM	Ceilcote	755.4963
008 6:43:33 PM	Diagnostic	58.14165
008 6:45:55 PM	Ceilcote	213.394
008 6:48:17 PM	Diagnostic	63.99749
008 6:50:39 PM	Ceilcote	57.44769
008 6:53:01 PM	Diagnostic	61.96431
008 6:55:23 PM	Ceilcote	100.5667
008 6:57:45 PM	Diagnostic	59.5208
008 7:00:07 PM	Ceilcote	67.67007
008 7:02:29 PM	Diagnostic	57.68763
008 7:04:51 PM	Ceilcote	100.1172
008 7:07:13 PM	Diagnostic	51.47986
008 7:09:35 PM	Ceilcote	159.0975
008 7:11:57 PM	Diagnostic	53.3472
008 7:14:19 PM	Ceilcote	208.512
008 7:16:41 PM	Diagnostic	54.82141
008 7:19:03 PM	Ceilcote	193.1825
008 7:21:25 PM	Diagnostic	54.78359
008 7:23:47 PM	Ceilcote	188.1308
008 7:26:09 PM	Diagnostic	53.80713
008 7:28:31 PM	Ceilcote	119.839

Ceilcote

11/18/08

1204	~~57.69~~
1207	100.12 ✓
#6 10	51.48
12	159.10 ✓
14	53.35
17	208.5 ✓
19	54.82
#7 21	193.18 ✓
23	54.78
26	188.13 ✓
28	53.81
31	119.84 ✓
33	52.01
#8 35	181.30 ✓
38	56.08
41	177.01 ✓
43	54.77
45	197.63

1/18/08



(2)

Ave pk HT = 816/46 = 17.74

$V_i = \frac{17.73}{31} \times 1.55 = 0.89$

$V_t = 355(0.89) + 55 = 401$ FPM

CFM = 0.7213 (401) = 289 CFM

(1)

Ave: 679/40 = 16.98 units

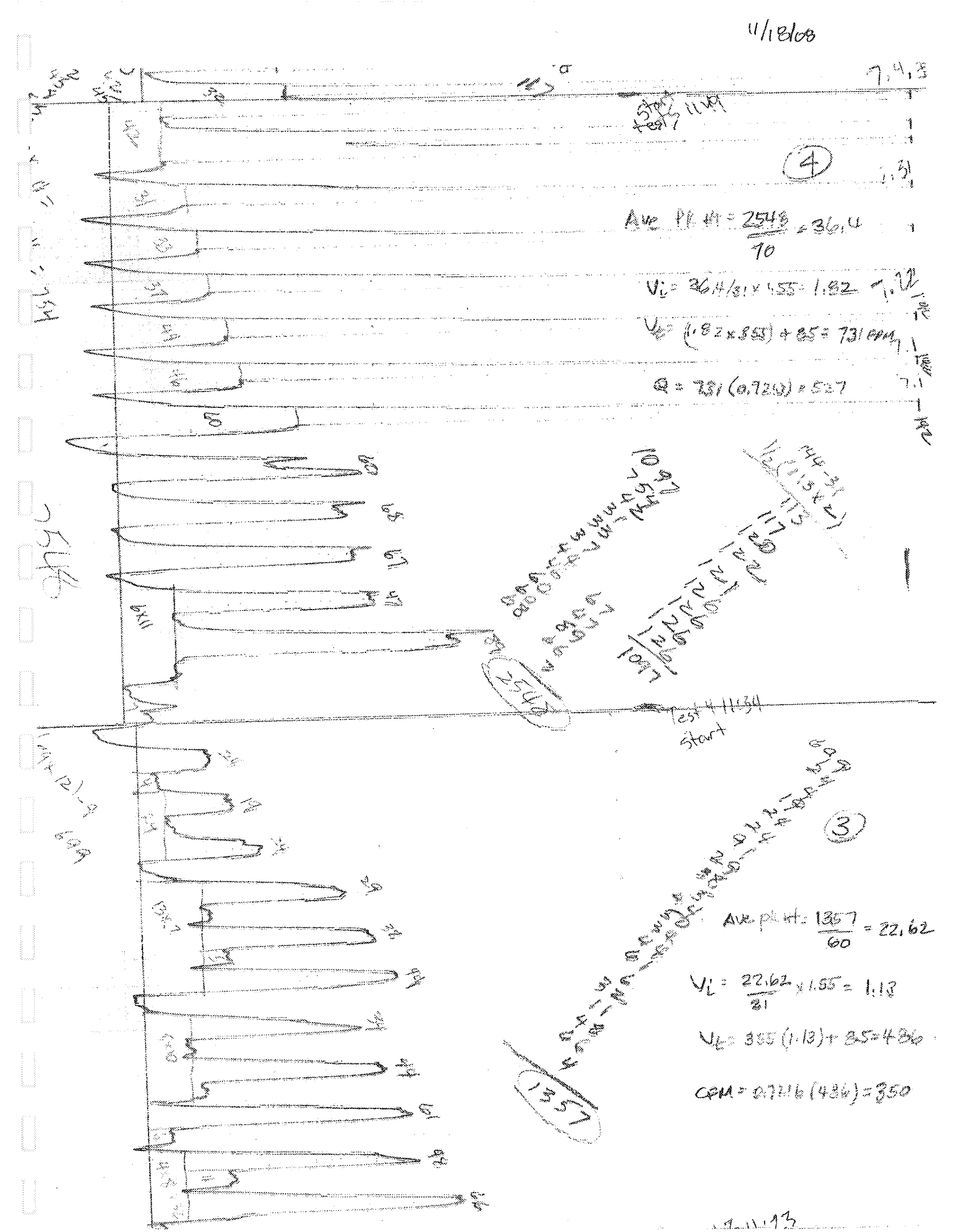
$V_i = \frac{16.98}{31} \times 1.55V = 0.85$

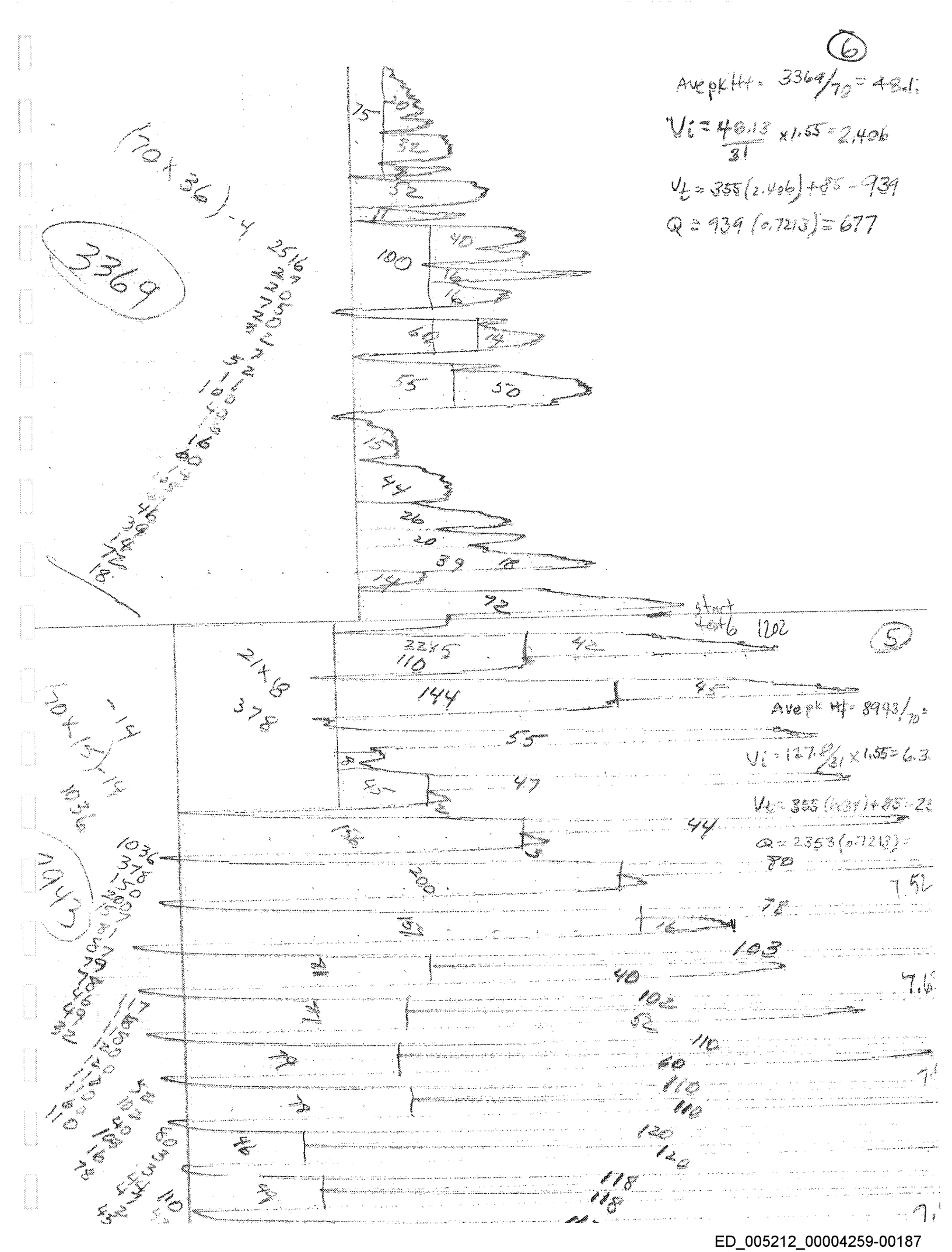
$V_t = 335(0.85) + 55 = 387$ FPM

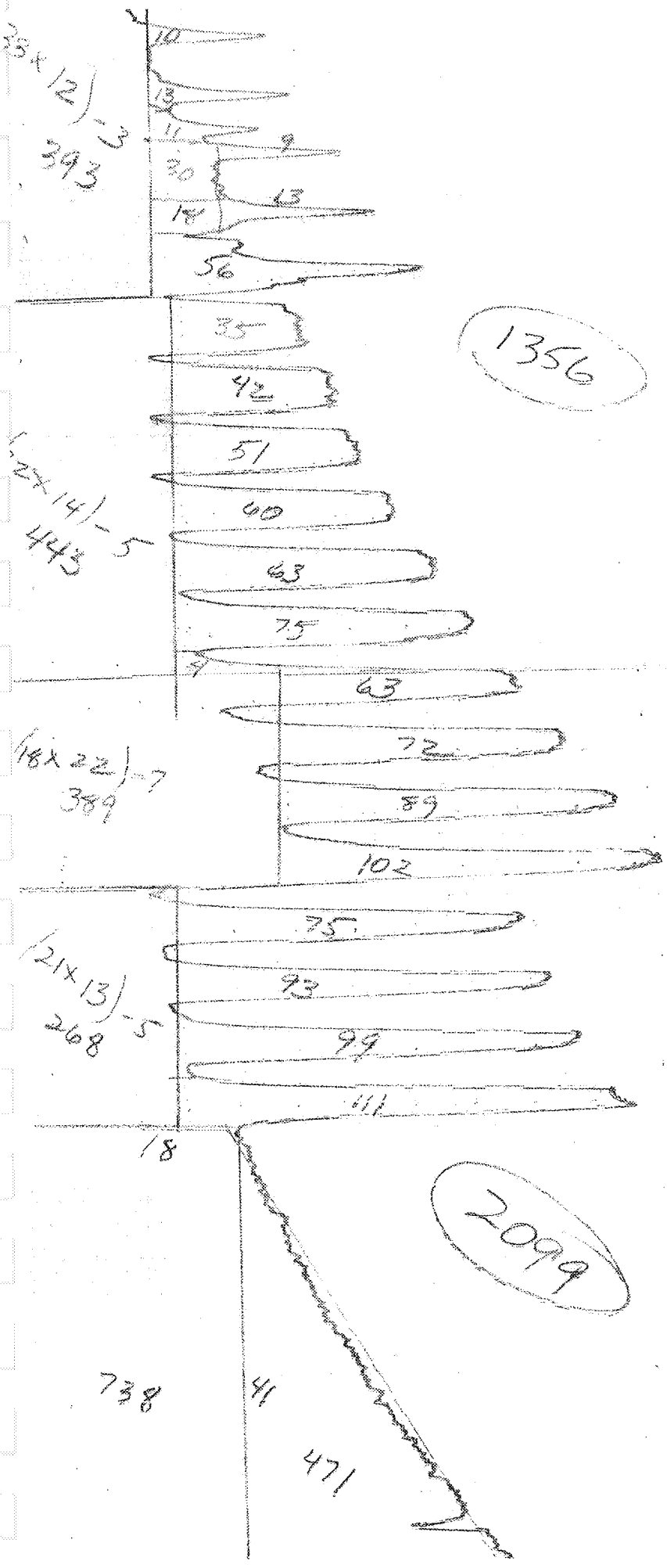
CFM = 387(0.7213) = 279 CFM

1.55V = 31 units

11/18/08







(8)

Ave PK HH = $\frac{1356}{65}$ = 20.86

$V_L = \frac{20.86}{31} \times 1.55 = 1.043$

$V_e = 355(1.043) + 85 = 455$

$Q = 0.7213(455) = 328$

(7)

Ave PK HH = $2099/80$ = 26.24

$V_L = \frac{26.24}{31} \times 1.55 = 1.31$

$V_e = 355(1.31) + 85 = 551$

$Q = 551 \times 0.7213 = 397$

Ceil cote - 11/18/08

Test 1 1105 - 1113
Units = 679

Test 2 1113 - 1123
Unit = 816

Test 3 1123 - 1134
Units = 1357

Test 4 1134 - 1149
Units = 2548

Test 5 1149 - 1202
Units = 8943

Test 6 1202 - 1217
Units 3369

Test 7 1217 - 1233
Units 2099

Test 8 1233 - 1246
Units 1356

Part 2

Donaldson Abator Field Sampling
GC Data
Calculations

Table 2: Ethylene Oxide Sampling Data

PLANT NAME: Sterigenics
STACK ID: Donaldson Abator
SAMPLE DATES: 11/18/08

Number of Traverse Points			16
Point No.	ΔP Rdg.	Sqrt ΔP	Cyclonic
1	0.18	0.42	
2	0.19	0.44	2 Deg Ave
3	0.2	0.45	(1998)
4	0.2	0.45	
5	0.2	0.45	
6	0.2	0.45	
7	0.2	0.45	
8	0.2	0.45	
9	0.2	0.45	
10	0.2	0.45	
11	0.2	0.45	
12	0.2	0.45	
13	0.2	0.45	
14	0.2	0.45	
15	0.2	0.45	
16	0.2	0.45	
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
Ave Sqrt ΔP		0.4451	
Stack Diameter, in		24	
Stack Area, Ft2		3.142	
Cp	0.99		
% H2O	2.13		
Vw	1.130		
Vmstd	51.868		
Molecular Weight		28.73	
Ave. Velocity FPS		34.50	
ACFM	6503.05		
DSCFM	4660.35		

ORSAT ANALYSIS DATA				
	1	2	3	Ave.
%CO2	0.2	0.2	0.2	0.2
%CO2+O2	20.5	20.5	20.5	
%O2	20.3	20.3	20.3	20.3

Barometric Pressure, in Hg		26.3
Static Pressure, in H2O		0.1
Stack Pressure, in Hg		26.31
Stack Temperature, Deg F.		174
Console I.D.	MISCO	
ΔH, in H2O	0.18	

Leak Ck = 0.005cfm@ 10"Hg

Moisture Data		
Gas Meter Reading	Meter in Deg. F	Meter Out Deg. F
775	45	45
833	73	74
833		
Cubic Ft Gas Taken	58	
Ave. Meter Temp. in, Deg. F	59.00	
Ave Meter Temp. out, Deg F		59.50
Ave Meter Temp., Deg. R		519.25

Moisture Analysis			
ml Imp1	110	Initial Silica Wt	216.5	210
ml Imp2	104	Initial Silica Wt,gm		200
ml Imp3	0	gm H2O in Silica		10
Init. H2O	200			
Net H2O	14	Total gm H2O		24

Ethylene Oxide Emissions		
DA Inlet PPM	DA Outlet PPM	% ETO Remov'l Eff.
41	0.8	98.05
50.8	1.05	97.93
50.8	0.65	98.72
48.6	0.29	99.40
46.1	0.38	99.18
48	0.11	99.77
47.550	**0.547**	**98.842**
1.515	**0.0170**	
	0.08	

NOx - CO Moisture and Velocity Data

PLANT NAME: Sterigenics
STACK ID: Donaldson Abator
SAMPLE DATES: 11/18/08

Number of Traverse Points		
Point No.	ΔP RDG	
1	.18	
2	.19	
3	.2	
4	.2	
5	.2	
6	.2	
7	.2	
8	.2	
9	.2	
10	.2	
11	.2	
12	.2	
13	.2	
14	.2	
15	.2	
16	.2	
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
AVE. SQRT ΔP		

Stack Diameter, in	24
Cp	0.99

FLUE GAS ANALYSIS DATA				
RUN:	1	2	3	Ave.
%CO2	0.2			
%O2	20.5			

Barometric Pressure, in Hg	26.3
Static Pressure, in H2O	0.1
Stack Pressure, in Hg	
Stack Temperature, Deg F	174°
Console I.D.	M150
ΔH, in H2O	0.18

Moisture Data		
Gas Meter Reading	Meter In Deg F	Meter Out Deg F
775	45	45
833	73	74

L/Ck OK = 0.005 @ 10"Hg

Cubic Feet of Gas		
Ave Meter Temp. (in, out), Deg F		
Ave Meter Temperature, Deg F		

Water	ml.	Water	grams
Impinger 1	110	Final Wt. Silica	210
Impinger 2	104	Initial Wt Silica	200
Impinger 3		Net H2O in Silica	10
Initial H2O	200	Net iminger H2O	14
Net H2O	14	Total H2O	24

Stevigenics Donaldson

Kramer & Associates, Inc. TSP	Plant:		Stack ID		Run #:	

Sample Point	Time Min	Gas Meter Reading Cubic Ft	ΔP Pitot Reading in H2O	ΔH Orifice Actual in H2O	Dry Gas Meter Temperature Inlet deg F	Dry Gas Meter Temperature Outlet deg F	Stack Temp deg F	Oven Temp deg F	Impinger Temp deg F	Probe Temp deg F	Pump Vacuum in Hg
	0910	775.0	—	0.25	45	45			59		
	1200	833		0.15	73	74			74		

11/18/08

Date/Time	Port	ETO
008 8:29:09 PM	DONALDSON	229.5757
008 8:31:31 PM	DONALDSON	34.52994 ①
008 8:33:53 PM	Diagnostic	52.80687
008 8:36:15 PM	DONALDSON	31.6223 ① 41.0 #1 IN
008 8:38:37 PM	DONALDSON	48.66342 ①
008 8:40:59 PM	DONALDSON	51.46231 ①
008 8:43:21 PM	DONALDSON	53.94178
008 8:45:39 PM	Diagnostic	52.80723
008 8:48:01 PM	DONALDSON	34.59567
008 8:50:23 PM	Diagnostic	48.31457
008 8:52:45 PM	DONALDSON	5.666831
008 8:55:07 PM	DONALDSON	4.432367
008 8:57:29 PM	DONALDSON	3.782645
008 8:59:51 PM	DONALDSON	3.602186
008 9:02:13 PM	DONALDSON	3.314958
008 9:04:35 PM	DONALDSON	2.900456
008 9:06:57 PM	DONALDSON	2.214334
008 9:09:19 PM	DONALDSON	2.215496
008 9:11:41 PM	DONALDSON	1.813859
008 9:14:03 PM	DONALDSON	1.712748
008 9:16:25 PM	DONALDSON	1.521613
008 9:18:47 PM	DONALDSON	1.553059
008 9:21:09 PM	DONALDSON	1.758861
008 9:23:31 PM	DONALDSON	1.313162
008 9:25:53 PM	DONALDSON	2.155559
008 9:28:15 PM	DONALDSON	1.456965
008 9:51:57 PM	DONALDSON	11.79478
008 9:54:19 PM	DONALDSON	1.517522
008 9:56:41 PM	DONALDSON	1.212553
008 9:59:03 PM	DONALDSON	1.134514
08 10:01:25 PM	DONALDSON	0
08 10:03:47 PM	DONALDSON	0.749496
08 10:06:09 PM	DONALDSON	0
08 10:08:31 PM	DONALDSON	1.159664
08 10:10:53 PM	DONALDSON	0
08 10:13:15 PM	DONALDSON	1.103306 #1 out (0.80)
08 10:15:37 PM	DONALDSON	1.094314
08 10:17:59 PM	DONALDSON	1.03994
08 10:20:21 PM	DONALDSON	1.013137
08 10:22:43 PM	DONALDSON	1.134879
08 10:25:05 PM	DONALDSON	1.131855 #2 out (1.05)
08 10:27:27 PM	DONALDSON	1.042694
08 10:29:49 PM	DONALDSON	0.9718617
08 10:32:11 PM	DONALDSON	1.011182
08 10:34:33 PM	DONALDSON	46.44458 #2 in (50.8)
08 10:36:55 PM	DONALDSON	52.60535

Date/Time	Port	ETO
08 10:39:17 PM	DONALDSON	49.6158
08 10:41:39 PM	Diagnostic	cal. 5.346339
08 10:44:01 PM	DONALDSON	54.69507
08 10:46:23 PM	DONALDSON	49.09426
08 10:48:45 PM	Diagnostic	5.618114
08 10:51:07 PM	DONALDSON	50.24357
08 10:53:29 PM	DONALDSON	54.50097
08 10:55:51 PM	Diagnostic	5.689143
08 10:58:13 PM	DONALDSON	49.21806
08 11:00:35 PM	Diagnostic	5.475787
08 11:02:57 PM	DONALDSON	7.136609
08 11:05:19 PM	DONALDSON	1.824727
08 11:07:41 PM	DONALDSON	1.312516
08 11:10:03 PM	DONALDSON	0.933044
08 11:12:25 PM	DONALDSON	0.8494158
08 11:14:47 PM	DONALDSON	0.7105263
08 11:17:09 PM	DONALDSON	0
08 11:19:31 PM	DONALDSON	0
08 11:21:53 PM	DONALDSON	0.895056
08 11:24:15 PM	DONALDSON	0.8946986
08 11:26:37 PM	DONALDSON	0.8342074
08 11:28:59 PM	DONALDSON	0
08 11:31:21 PM	DONALDSON	0
08 11:33:43 PM	DONALDSON	0
08 11:36:05 PM	DONALDSON	0.6279194
08 11:38:27 PM	DONALDSON	0
08 11:40:49 PM	DONALDSON	0.5448384
08 11:43:11 PM	DONALDSON	0.5699199
08 11:45:33 PM	DONALDSON	51.31492
08 11:47:55 PM	DONALDSON	51.172
08 11:50:17 PM	Diagnostic	5.4277
08 11:52:39 PM	DONALDSON	48.05541
08 11:55:01 PM	Diagnostic	5.183354
08 11:57:23 PM	DONALDSON	43.99883
08 11:59:45 PM	DONALDSON	45.02771
08 12:02:07 AM	DONALDSON	46.03727
08 12:04:29 AM	DONALDSON	46.57658
08 12:06:51 AM	DONALDSON	45.98061
08 12:09:13 AM	DONALDSON	46.88196
08 12:11:35 AM	DONALDSON	2.575908
08 12:13:57 AM	DONALDSON	1.530398
08 12:16:19 AM	DONALDSON	1.186281
08 12:18:41 AM	DONALDSON	0.8216304
08 12:21:03 AM	DONALDSON	0.7182426
08 12:23:25 AM	DONALDSON	0
08 12:25:47 AM	DONALDSON	0

#2 in (50.8)

#3 in (50.8)

#3 out (0.65)

#4 out (0.29)

#4 in (48.6)

#5 in (46.1)

#5 out

Date/Time	Port	ETO
08 12:28:09 AM	DONALDSON	0
08 12:30:31 AM	DONALDSON	0
08 12:32:53 AM	DONALDSON	0.5565851
08 12:35:15 AM	DONALDSON	0
08 12:37:37 AM	DONALDSON	0
08 12:39:59 AM	DONALDSON	44.6061
08 12:42:21 AM	DONALDSON	46.30397
08 12:44:43 AM	DONALDSON	49.13725
08 12:47:05 AM	DONALDSON	49.07391
08 12:49:27 AM	DONALDSON	50.00769
08 12:51:49 AM	DONALDSON	48.55681

#6 out (0.11)

#6 in (48.0)

Part 3

Plant Operating Data

R554119
Version STER0001

Sterigenics International, Inc
Gas Usage Report

11/26/08 19:02:58 GMT
Page - 1 of 1

Business Unit 132 Santa Teresa

Date From 11/18/08 Date Thru 11/18/08

Location	Item Number	UOM	Unit Of Measure Description	Quantity
CHAMBER_1	EO	LB	Pounds	127-
CHAMBER_10	EO	LB	Pounds	199-
CHAMBER_11	EO	LB	Pounds	371-
CHAMBER_12	EO	LB	Pounds	188-
CHAMBER_13	EO	LB	Pounds	451-
CHAMBER_2	EO	LB	Pounds	61-
CHAMBER_3	EO	LB	Pounds	121-
CHAMBER_4	EO	LB	Pounds	62-
CHAMBER_5	EO	LB	Pounds	179-
CHAMBER_6	EO	LB	Pounds	123-
CHAMBER_7	EO	LB	Pounds	264-
CHAMBER_8	EO	LB	Pounds	446-
CHAMBER_9	EO	LB	Pounds	445-
			Total Usage	**3,037-**

lb/HR AVG = 3037/24 = 126.5 lb/HR EO

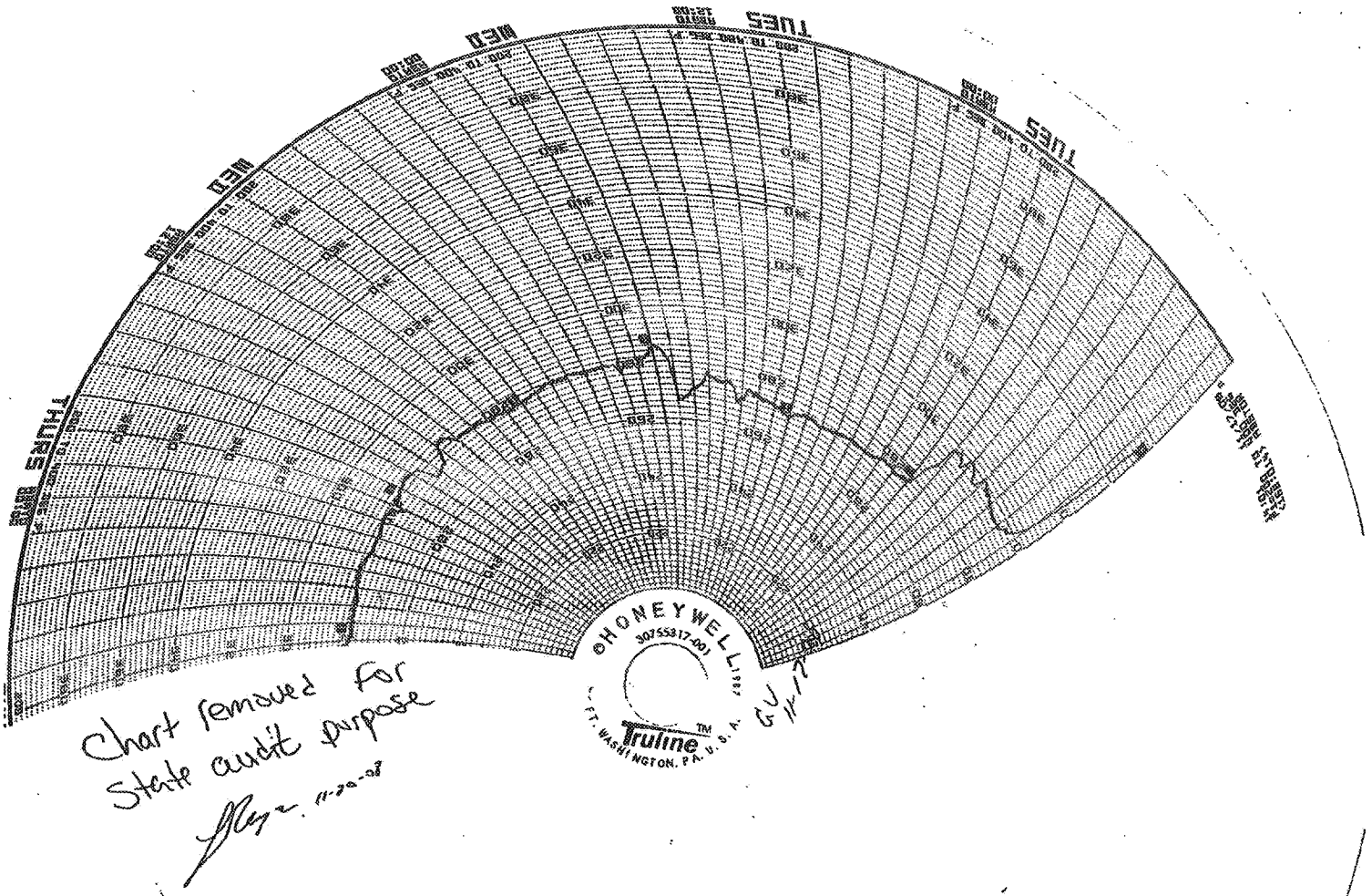


Chart removed for
State audit purpose
11-20-08

Appendix

Sampling Equipment Calibrations

KRAMER & ASSOCIATES INC.

DRY METER AND ORIFICE CALIBRATION DATA

DATE: 1/7/2008 **LOCATION:** Kramer & Assoc. Lab

BAROMETRIC PRESSURE: 24.7 in. Hg **Console ID:** Misco

WET METER SER. #: 11AM9

DRY METER SER. #:

Orifice Setting ΔH	Metered Gas Volume		Meter Temp., F		Metering Time	Accuracy	Orifice
	Wet Test Vw	Dry Vd	Wet Test Tw	Dry (avg.) Td	Minutes t	Ratio G*	Coefficient ΔH@
0.5	9.03	9.105	65.6	71.5	20	1.001	1.64
0.5	8.93	9.002	65.7	72	20	1.002	1.67
0.5	9	9.129	65.8	74	20	1.000	1.67
1.0	6.24	6.248	65.8	73	10	1.009	1.71
1.0	6.2	6.242	65.9	74	10	1.006	1.73
1.0	6.21	6.225	65.8	74.5	10	1.011	1.72
2.0	8.41	8.411	65.8	75	10	1.011	1.88
2.0	8.42	8.42	65.8	76	10	1.013	1.87
2.0	8.41	8.45	65.8	76	10	1.009	1.87
3	10.28	10.34	65.8	76	10	1.005	1.88
3	10.25	10.33	65.8	76	10	1.003	1.89
3	10.25	10.32	65.8	76.5	10	1.004	1.89
4.0	11.55	11.58	65.8	77	10	1.007	1.98
4.0	11.55	11.63	65.8	77.25	10	1.003	1.98
4.0	11.55	11.63	65.8	77.25	10	1.003	1.98
5.0	13.42	13.48	65.8	77.75	10	1.003	1.83
5.0	13.38	13.39	65.8	78	10	1.007	1.84
5.0	13.38	13.49	65.8	78.25	10	1.000	1.84
					avg.:	1.005	1.83

$$*G = \frac{Vw*Pb*(Td+460)}{Vd*(Pb+(\Delta H/13.6))*Tw+460} \qquad *\Delta H@ = \frac{0.0317*\Delta H}{Pb*(Td+460)} * \frac{Tw+460}{Vw} \text{ ^2}$$

G= ratio of accuracy of wet test meter to dry test meter
ΔH@= orifice pressure differential that gives 0.75 cfm of air at 70 deg. F. and 29.92 inches Hg

CFR 40 CALIBRATION LIMITS: Triplicate runs at each ΔH setting with <0.03 deviation in the accuracy ratio. The accuracy ratio should be between 0.95 and 1.05.

BULLETIN NO. H-11

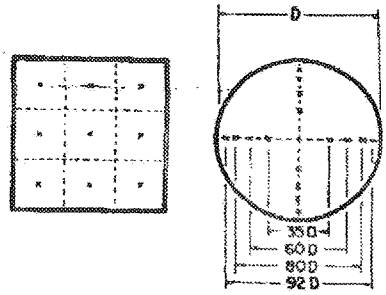
AIR VELOCITIES WITH THE DWYER PITOT TUBE

AIR VELOCITY

The total pressure of an air stream flowing in a duct is the sum of the static or bursting pressure exerted upon the sidewalls of the duct and the impact or velocity pressure of the moving air. Through the use of a pitot tube connected differentially to a manometer, the velocity pressure alone is indicated and the corresponding air velocity determined.

For accuracy of plus or minus 2%, as in laboratory applications, extreme care is required and the following precautions should be observed:

1. Duct diameter 4" or greater.
2. Make an accurate traverse per sketch at right and average the readings.
3. Provide smooth, straight duct sections 10 diameters in length both upstream and downstream from the pitot tube.
4. Provide an egg crate type straightener upstream from the pitot tube.



In making an air velocity check select a location as suggested above, connect tubing leads from both pitot tube connections to the manometer and insert in the duct with the tip directed into the air stream. If the manometer shows a minus indication reverse the tubes. With a direct reading manometer, air velocities will now be shown in feet per minute. In other types, the manometer will read velocity pressure in inches of water and the corresponding velocity will be found from the curves in this bulletin. If circumstances do not permit an accurate traverse, center the pitot tube in the duct, determine the center velocity and multiply by a factor of .9 for the approximate average velocity. Field tests run in this manner should be accurate within plus or minus 5%.

The velocity indicated is for dry air at 70°F., 29.9" Barometric Pressure and a resulting density of .075#/cu. ft. For air at a temperature other than 70°F. refer to the curves in this bulletin. For other variations from these conditions, corrections may be based upon the following data:

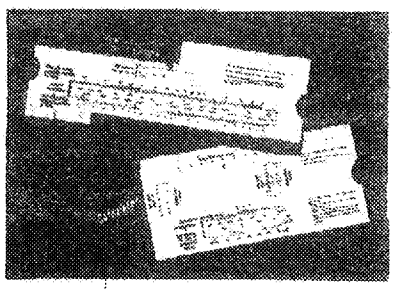
$$\text{Air Velocity} = 1096.2 \sqrt{\frac{P_V}{D}}$$

where P_V = velocity pressure in inches of water
D = Air density in #/cu. ft.

$$\text{Air Density} = 1.325 \times \frac{P_B}{T}$$

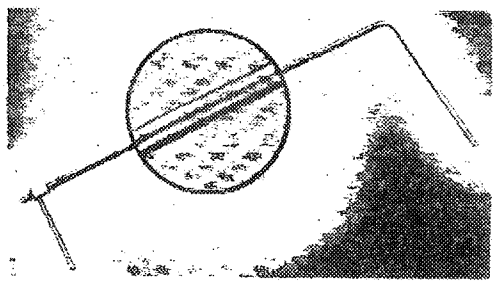
where P_B = Barometric Pressure in inches of mercury
T = Absolute Temperature (indicated temperature plus 460)

Flow in cu. ft. per min. = Duct area in square feet x air velocity in ft. per min.



AIR VELOCITY CALCULATOR

Computes velocity based on air density corrected for conditions of temperature and pressure. Eliminates tedious calculations. Ranges from .01 to 10" water corresponding to 400 to 20,000 FPM. Furnished with each pitot tube.



STAINLESS STEEL PITOT TUBES

Test confirmed unity coefficient and lifetime construction of No. 304 stainless steel. Inch graduations show depth of insertion for traversing. Complies with AMCA and ASHRAE specifications. Sizes 12" to 60" long. Hand or fixed mounting types.

Printed in U.S.A. 6/70

SCOTT-MARRIN, INC.
6531 BOX SPRINGS BLVD. • RIVERSIDE, CA 92507
TELEPHONE (951) 653-6780 • FAX (951) 653-2430

Report Of Analysis
NIST-Traceable Gas Mixtures

TO: STER10
Sterigenics
Attn: Ruben Gaytan
2400 Airport Road
Santa Teresa, NM 88008
(505) 589-9300 x24

REPORT NO: 52614-01
REPORT DATE: October 22, 2007
CUSTOMER PO NO: 8181

CYLINDER NUMBER: CC28037

COMPONENT	CONCENTRATION (v/v)	NIST TRACEABLE REFERENCE STANDARD
Ethylene oxide	4.98 ± 0.25 ppmv	Volumetric
Nitrogen	Balance	

Cylinder Size: 150A (141 std cu ft)
Cylinder Pressure: 2000 psig
Shelf Life: 6 months

ppm = cmole/mole % = mole-%

The above analyses are traceable to the National Institute of Standards and Technology by intercomparison with the reference standard listed herein. Where indicated, volumetric and gravimetric reference standards are traceable thru use of our analytical balance. NIST Report Number MMAP 232.08/202491.

ANALYST: M.S.Calhoun APPROVED: J. T. Marrin

The only liability of this company for gas which fails to comply with this analysis shall be replacement or reanalysis thereof by the company without extra cost.

SCOTT-MARRIN, INC.
6531 BOX SPRINGS BLVD. • RIVERSIDE, CA 92507
TELEPHONE (951) 653-6780 • FAX (951) 653-2430

Report Of Analysis
Calibration Gas Mixtures

STER06
TO: Sterigenics
Attn: Ruben Gaytan
2400 Airport Road
Santa Teresa, NM 88008
(505) 589-9300 x24

REPORT NO: 54573-01
REPORT DATE: October 17, 2008
CUSTOMER PO NO: 23151

CYLINDER NUMBER: **CC42852**

COMPONENT	CONCENTRATION (v/v)
Ethylene oxide	46.6 ± 0.5 ppmv
Nitrogen	Balance

Cylinder Size: 150A (141 std cu ft)
Cylinder Pressure: 2000 psig
Shelf Life: 12 months

ppm = umole/mole **% = mole-%**

ANALYST: M.S.Calhoun **APPROVED:** J. T. Marrin

The only liability of this company for gas which fails to comply with this analysis shall be replacement or reanalysis thereof by the company without extra cost.

STANDARD CALIBRATION GASES IN ALUMINUM CYLINDERS